

MANUFACTURERS' RECORD

A Weekly Southern Industrial and Hardware Newspaper.

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WEEKLY.

BALTIMORE, AUGUST 31, 1889.

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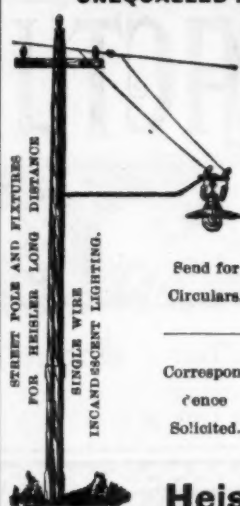
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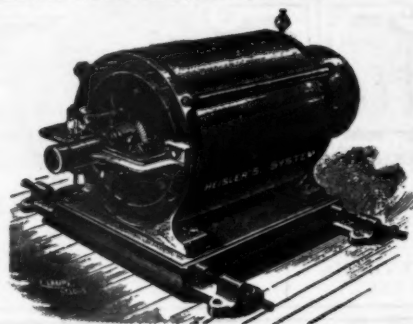
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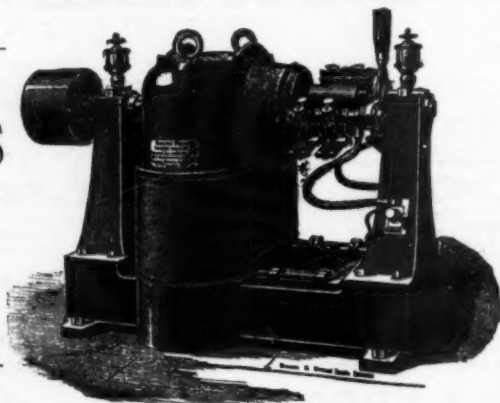
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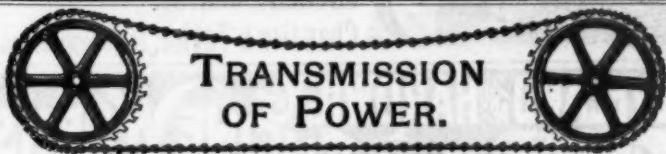
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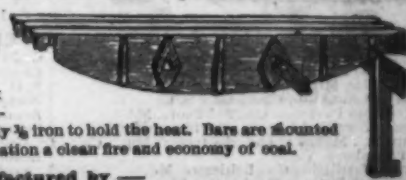
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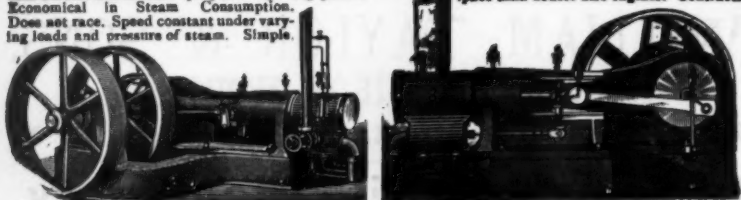
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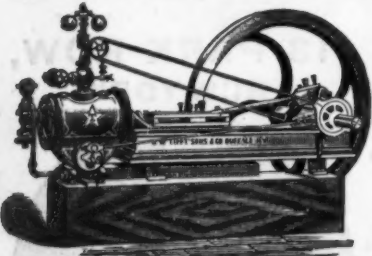
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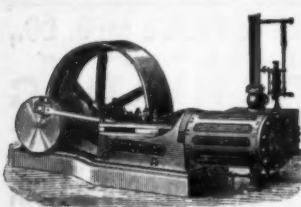
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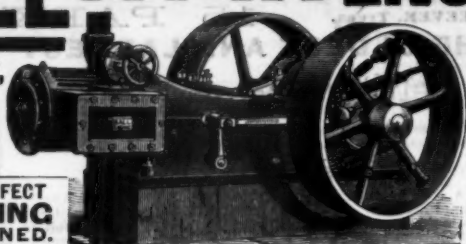
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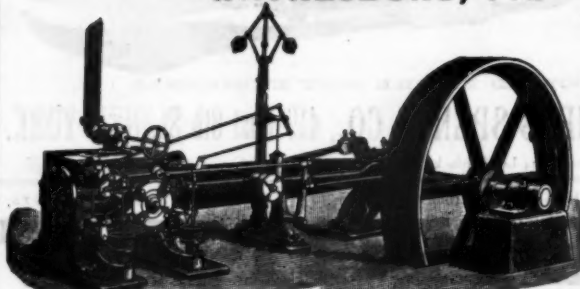
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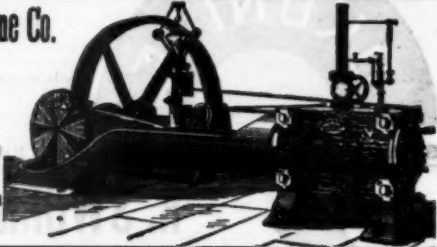
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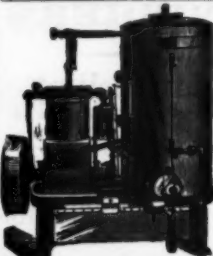
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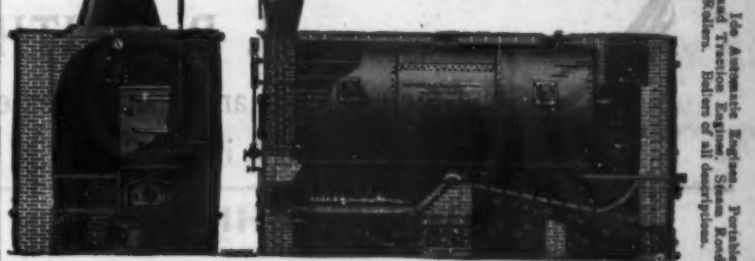
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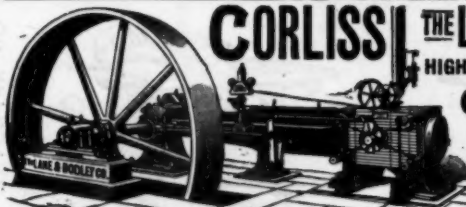


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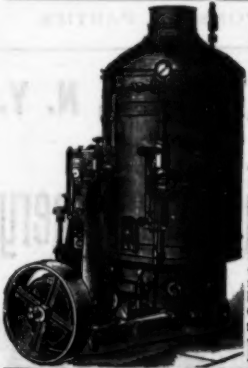
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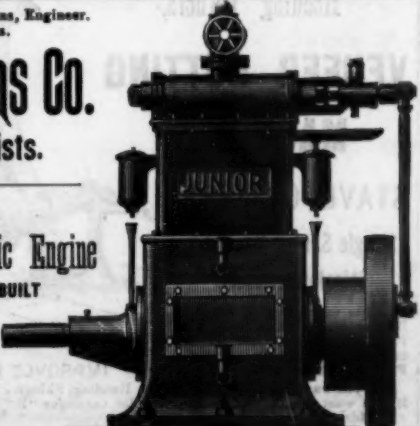
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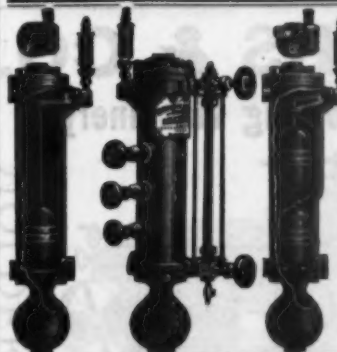
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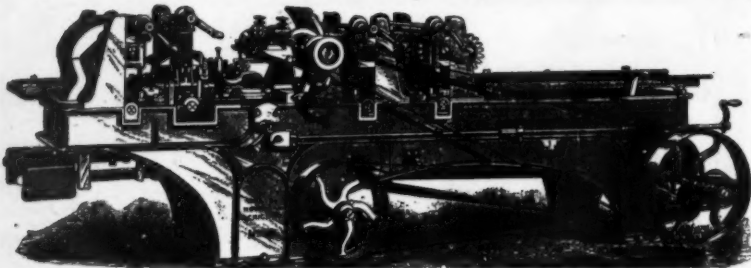
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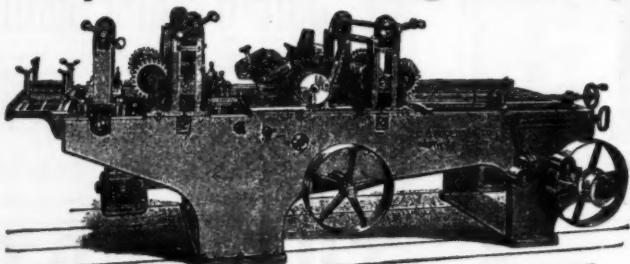
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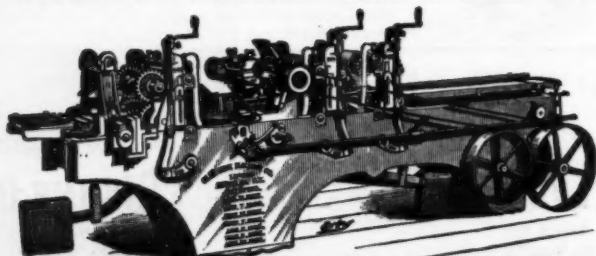
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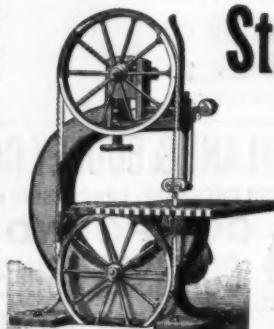
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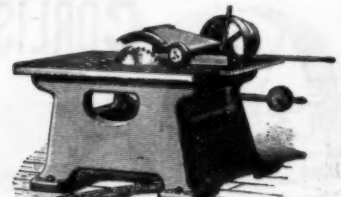
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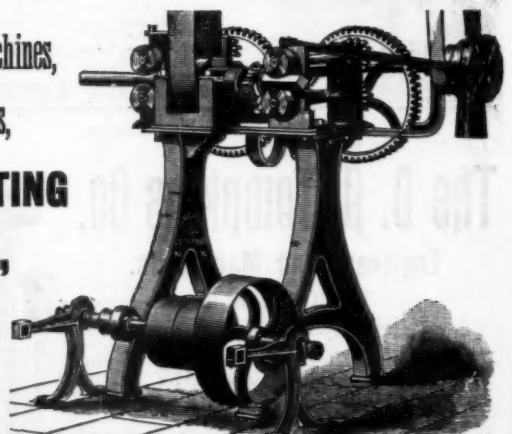
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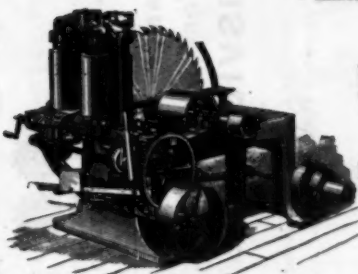
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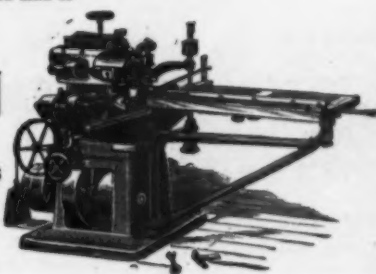
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In a previous issue we promised to show you some more interesting matter relative to our No. 12. Well, we have kept our word, and here it is, and if you'll keep an eye on us you will learn something more, too. If you contemplate adding any new tools to your plant you know it means a large balance in your favor by dealing with us.

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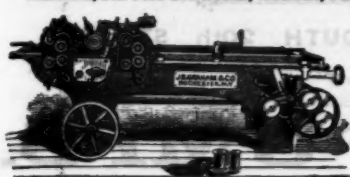
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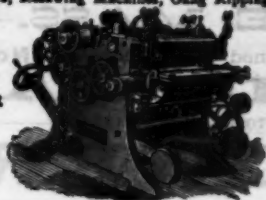
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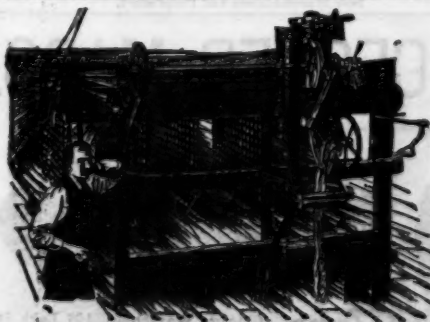
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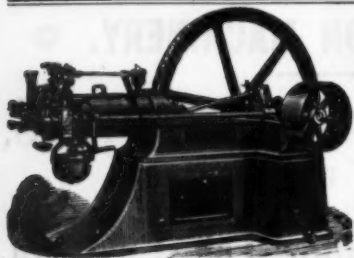
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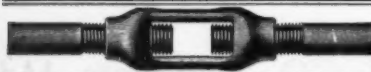
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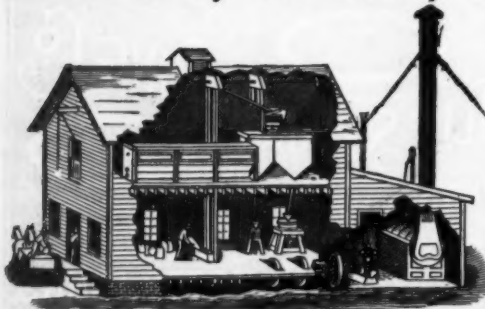
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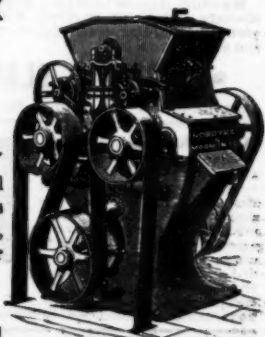
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BALTIMORE, AUGUST 31, 1889.

Why not subscribe for the MANUFACTURERS' RECORD? Price \$4 per year or six months for \$2.

Southward the Star of Empire Takes Its Way.

For years the MANUFACTURERS' RECORD has been preaching that where the cotton is grown there it must be manufactured, and that the South is destined to be the cotton manufacturing and iron making center of the world. These truths are being impressed upon the business world, and the Philadelphia Times, of which Col. A. K. McClure is the editor, following in this line, in its issue of August 26 says:

"The place where the cotton is grown is the place where it must soon be chiefly manufactured. With a genial climate that in itself lessens the cost of labor very largely; with water-power that never freezes in most of the cotton regions; with facilities for reaching markets nearly or quite equal to Northern mills, and with the economy of free raw materials without cost of transportation or the injury of severe compression, cotton should be manufactured in any of the cotton States much cheaper than in the North.

In these days of swift mutations in business and trade those who disregard the absolute laws which govern all branches of enterprise will be certain to flounder in bankruptcy, and only the stone blind fail to see that cotton fabrics and a large proportion of the iron supply of the country must come from the South. They have natural advantages for cheapening those products which cannot be longer defied, and, instead of persisting in warring against fate by putting Northern ingenuity, energy and capital against Southern advantages, our ingenuity, energy and capital must largely go South, and reap their richest harvests in the cotton and iron centers of that region."

The Times but voices the now almost universal sentiment of the world. Ten years ago the MANUFACTURERS' RECORD found but few believers in its teachings of Southern industrial supremacy, but it never faltered in its work, and to-day nearly the whole business world freely admits that the South is entering upon a period of prosperity and development greater than has ever before been known upon this continent.

Ship-yards in the South.

All the signs of the day point toward the restoration of American shipping interests. In fact, it would appear that the revival had already begun; for in 1888, only forty-three sailing vessels were built in the Maine ship-yards, while to-day there are thirty-nine sailing vessels in the stocks, saying nothing of those that have been launched. Wages are from fifteen to twenty five per cent. higher than last year, and all of the thirty or so ship yards are busy. Moreover, every iron ship-building yard in the country is reported as crowded with work.

With this revival of ship-building in the North, what are we in the South doing? Are our ship-yards having a boom equal to that the Maine yards are experiencing? Last year Virginia built five schooners, North Carolina eighteen, South Carolina one, Georgia none, Florida fifteen, Alabama four, Mississippi twelve, Louisiana eight, and Texas five; yet the aggregate tonnage of these sixty-eight vessels was not equal to that of one of the schooners built in Maine. The demand nowadays is for three or more masted double-decked schooners, of a thousand to fifteen hundred tons capacity; and while the yards in Maine are building such crafts, we in the South are building vessels of one hundred tons or less.

Some of the best timber for ship-building in the world is to be had in the South. Many of the finest vessels ever built in this country have been built of Southern timber. Wages are very cheap in the South; an enormous coasting trade is carried on, and its increase in volume each year is incredible. Yet we sell our lumber to others to be wrought into ships, and we allow our carrying trade to go into the hands of others, and lose two handsome profits—that of the ship builder and that of the ship owner. Forty-four schooners were built on the Pacific coast last year, but the tonnage of these forty four vessels was nearly eight times that of the sixty-eight vessels built in the Southern States. When it is considered that wages are two or three times as great on the Pacific coast as in the South, it will be seen that the California, Oregon and Washington ship builders have worked against odds, especially when it is remembered that a schooner can be built in Maine, taken around to San Francisco in ballast, and oftentimes be sold at a handsome profit.

What is the matter with the proud State of Georgia, with her wealth of timber, abundance of cheap but good labor, and two such good ports as Brunswick and Savannah, when in twelve months she can only build one little sloop that can carry perhaps a dozen tons of brick? Certainly it could not be for lack of trade, for 373 vessels entered those ports during those twelve months, and 479 cleared.

The South cannot afford to wait longer in this matter. With the unanimous movement on the part of the business men of the country, irrespective of party, in favor of encouraging our shipping, and the publicly expressed opinion of many members of Congress and of President Harrison, it is evident that something is to be done. The North and the extreme West are ready to benefit by this revival. The South is not. At Newport News is the magnificent Huntington plant, that will cost about \$1,500,000, and which has the most capacious dry-dock in the country. But we refer more especially to the smaller yards for building coasting vessels of wood instead of great iron and steel steamships.

An intimation has come to the MANUFACTURERS' RECORD that one or two of the smaller ship yards of New England would consider seriously a favorable opportunity to move South. Here then is an opportunity for Brunswick or Pensacola or Mobile or some other live seaport town conveniently situated to the lumber supply to acquire an industry that will attract hundreds of the most skilled mechanics. If one of these yards can be induced to move South, it is probable that the whole equipment, with its skilled workmen, designers and all will move. There can be no question about the South building wooden vessels cheaper than any other section of the country. The only question is, what town is sufficiently energetic and enterprising to attract one of these yards, and thus become, with the coming boom, the ship-building center of the South?

MIDDLESBOROUGH, KY., is, in the language of the day, hustling. Not only are the remarkable advantages of the place and its great future attracting the attention of the press of the whole country, but the leading financial and industrial journals of England are giving more attention to this town, we believe, than they have ever given to any enterprise of that character in this country. All England will be made fully acquainted with the resources and attractions of the country tributary to Middlesborough, and the indications now point to a rapidity of growth that will astonish even those who have watched the marvelous progress of Florence, Anniston, Sheffield, Decatur, Birmingham and other centers of activity.

THE New Birmingham (Texas) Times is out with a special issue showing the progress of this, the first, new iron town of Texas. In New Birmingham is one-half as full of vim and life as the Times, it has a bright future before it.

"THE future of the South is simply immense," writes a careful observer to the MANUFACTURERS' RECORD after a full investigation of its advantages and present condition.

A Time to Make Hay.

The MANUFACTURERS' RECORD has for six months or more been predicting great activity in business this fall, and especially in the South. Following in the same line, the Atlanta Constitution, under the heading of "A Time to Make Hay," says:

The great railroads of the West have made their peace, the price of iron has advanced, investors are taking good stocks freely and an abundant harvest seems to be assured. The disposition to withhold money from investments has disappeared in the face of abundant signs of prosperity. The money which was being checked up in the centers is flowing out again and the wheels of industry will go round with renewed activity.

The Southern furnace men are happy. The price of pig iron has advanced \$1.50 a ton and the furnaces are earning dividends. Now is the time to make money. It is like making hay and this is the season. The booming towns of the South are about to take on another growth. Eastern capital has begun to flow Southward again in more copious streams than ever, and home capital is taking hold with greater boldness. Concerns of great magnitude are being chartered and organized so fast that the general public loses sight of many of them.

Now is the time for the ambitious business man. He can strike while the iron is hot, and if he strikes hard and aims well he will make a hit that will tell.

But just along here it is time to say a word of caution. Pay as you go. Don't leave back obligations that will fall on you like a thunderclap after the wave of prosperity has rolled by and you are in the trough of despondency and the whole country is wary and distrustful. Men who would be glad to lend you money now will frown on you then. "There is a tide in the affairs of men which, taken at the flood, leads on to fortune," but taken at the ebb leads only to despair. Wise and happy is the man who rides on the crest of the wave.

THE SPECTATOR, of Staunton, Va., is authority for the statement that Messrs. E. W. Clark & Co., leading Philadelphia bankers closely identified with the Norfolk & Western Railroad, will, in September, have \$5,000,000 of English capital placed in their hands for investment in the South. If this statement is correct we think that the bulk of this money will be placed in Virginia; in fact, it is said that the new town of Buena Vista has already been promised a share of it. Buena Vista, by the way, is attracting very much attention during the last few weeks.

A CORRESPONDENT, writing of Union, S. C., in this week's issue of the MANUFACTURERS' RECORD, mentions that the Merchants and Planters' Bank, having a capital stock of \$60,000, has a surplus and undivided profits of \$52,000. The accumulation of a surplus nearly equal to the capital can be understood from the additional statement that "since 1873 the bank has not lost one dollar in bad debts." That is certainly a remarkable record, which is a credit to the management of the bank and a credit to the commercial integrity and soundness of Union's business interests.

Immigration into the South.

The question of immigration is almost epidemic throughout North and South America. In this country the government proposes to put stringent restrictions upon the wholesale outpourings of Europe's restless population. But many of the individual States are offering great inducements to new settlers. The commercial clubs and progressive element of Kentucky have called a meeting at Louisville, October 5, to consider the immigration question. Even the little State of Vermont has taken legislative action, and is considering offering special inducements for Scandinavians to come over and re-occupy the abandoned farms in the valleys and on the slopes of the Green mountains.

The most cheerful aspect of this question, as far as the South is concerned, is the fact that the new comers are not, as a rule, untrained and unskilled labor from Europe or Canada, but those who have learned their trades either in the factories or on the farms of the North, and who now go South to better themselves, the same as young men followed Horace Greeley's advice a quarter of a century ago and went West. The energy and thrift of the West is due to the overshadowing influence of the immigrants from the East, who took money with them as they followed the setting sun to seek new homes. They had every requisite to build up a great empire like the West. Here in the South we have much more of the bounties of nature than we know what to do with. We are hampered by their super-abundance. If we were to populate our section with Europeans and Canucks from Canada we would be but little better off, because we would have to provide work for them and assimilate them socially and politically. But by attracting the mechanic who has by his skill already accumulated enough to provide himself a home, and the farmer who has sufficient money to buy land, we are accumulating wealth and developing our resources with each new arrival. Here lies the great future strength of the South.

The action of these wide-awake Kentuckians is most commendable, but we sincerely hope they will not make the mistake to endeavor to attract immigrants from beyond our borders, unless of a better class than the majority of emigrants that now leave Europe for America. The old Commonwealth is altogether too rich in resources to flounder along with a horde of socialists and anarchists. Open up your lands and your mines and your forests and the best class of immigrants will flock to them, the same as they flocked into the great West. The South is now receiving the very best class of immigrants, and nothing must happen to change the complexion of the stream.

In the letter of Mr. S. Cullen, from Alexandria, La., in our last issue, regarding the yield of sugar from a ton of cane, "lbs." was in several instances changed, by a printer's mistake, to "hds."

Great Enterprises in Virginia.

A few weeks ago the MANUFACTURERS' RECORD reported that a new town was to be started at Waynesboro Junction, Va. Since then a company has been organized, and now the active work of development will be pushed forward vigorously. It is scarcely possible to picture a more admirable location for an industrial town. In the center of the famed valley of Virginia, one of the richest agricultural countries in the world, with two leading railroads—the Chesapeake & Ohio and the Shenandoah Valley—crossing within the limits of the town; with a magnificent spring bursting from the side of a hill, furnishing the finest water sufficient for a city of a hundred thousand people; with a bold river affording good water power; with iron ore in abundance not two miles from the center of the proposed town, this place has advantages rarely found for rapid development of industrial interests. A great mountain of iron ore averaging over 50 per cent. of metallic iron furnishes the basis for an almost unlimited iron industry, while Pocahontas coke can be had at low cost. This iron ore mountain is a remarkable thing. Nature could scarcely have planned a deposit of iron more easily and cheaply mined, while in quantity it is practically inexhaustible, and in quality is far above the average.

The Roseland Coal & Iron Co., recently organized with Gen. Rosecrans, the Registrar of the United States Treasury Department, as president, with a capital stock of \$1,000,000, and the Ingalls Land & Improvement Co., which also has a capital stock of \$1,000,000, will work in unison in the development of this immense iron property and the building up of the industrial town of Ingalls, named for the president of the Chesapeake & Ohio Railroad, at Waynesboro Junction. Contracts have already been signed for mining from 100 to 1,000 tons of this ore a day, and there are even now, we are informed, orders enough on hand to require an average of probably 1,000 tons a day for shipment to Virginia and Pennsylvania furnaces.

Fifty dwellings for the miners will be put up at once, and there is a good promise within two weeks of another bustling, busy center of activity in the Old Dominion. Prof. R. N. Pool, of Staunton, who is the projector of these enterprises, is working with determination to develop the vast manufacturing possibilities of Virginia, and certainly there are good signs that great results are to follow his efforts. The founding of this town and the development of one of the finest iron ore properties in the South in connection therewith will mark the beginning of active times in the Valley of Virginia. The old State is rapidly coming to the front.

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An Interesting Interview.

We publish elsewhere an extremely interesting interview with Mr. T. J. Hurley, of Fort Worth, Texas. Mr. Hurley is one of the foremost men in the great and growing Southwest. He is one of the leaders in promoting the advancement of his State and section. The results of his work for Texas and for the South can never be estimated. He is bright, able, energetic, progressive, full of zeal and enthusiasm, and is fortified by the prestige of success. He is a man of remarkably quick conception, of sound judgment and broad views, and is, moreover, a ready and forcible speaker, with the power of making other people believe what he believes. It is much to be regretted that he could not serve as a member of the Pan-American Congress. A residence of some years in South and Central America, and an intimate knowledge of the history, and the laws and institutions and business methods of most of the nations south of us, would have given exceptional value to his services as a member of the congress. He has been accustomed all his life to dealing with large questions and handling undertakings of great magnitude. He has lived in London, in Paris, in Frankfurt, representing American interests. He has conducted important negotiations with Central American governments for great public improvements. It was he who originated and worked up that great Deep Water Convention which assembled at Fort Worth in July, 1888, and was followed by the Denver Convention as an outgrowth three months later, and which was one of the greatest public industrial movements ever undertaken in this country.

THE MANUFACTURERS' RECORD congratulates the people of Virginia that the owners of the Chesapeake & Ohio, through President Ingalls's wise management, are disposed to make liberal investments in the industrial interests of that State, and it congratulates these wise capitalists upon placing their money in such a good place. These investments will prove mutually advantageous. They will materially aid in stimulating the development of the great resources of Virginia, and at the same time build up large industries which will furnish an immense traffic to this railroad.

Two weeks ago we mentioned the fact that President Ingalls, on behalf of the Chesapeake & Ohio Railroad, had subscribed \$50,000 to the stock of the new furnace company at Buena Vista, and since then he has invested a similar amount in the stock of the Rockbridge Company, which is to build the new town of Glasgow. We trust that many other enterprises in the Old Dominion will receive equally as liberal encouragement from this railroad, the managers of which show that they fully realize the wonderful possibilities of development in that State.

Its "Nobler Purposes" at Home Perhaps.

A correspondent recently sent us from Evergreen, Ala., a sample of vegetable fibre from the inner bark of the poplar tree. "This fibre," he wrote, "has long been used by the negroes of the South for making horse collars, foot-mats, etc., but in my judgment it can be utilized for nobler and more profitable purposes. It would certainly make fine paper, and it may be the solution of the jute bagging question."

We sent samples of the fibre to several experts for examination as to its commercial value. In reply a well-known manufacturer of fibres writes: "The sample partakes too much of the nature of wood to be valuable for spinning purposes. If it could be spun at all, which I doubt, it could only be for very coarse purposes, such as bagging, etc., and its value in such case would not exceed that of common jute, say three cents per pound." One of the leading paper makers of the South writes: "We could not undertake to say just what the value of the fibre would be without giving the matter a practical test. It does not appear to have much strength and may be difficult to bleach. At a rough guess I should say a cent and a quarter per pound would perhaps be its value in its present shape."

The fibre evidently is not of as much commercial value as our correspondent hopes it may be for the purposes he suggests. In his desire to develop the resources, is he not over-reaching his locality? Suppose the fibre were suited to paper-making or weaving, a great amount of capital would be required to manufacture it. Such a possibility, however, is beyond consideration, according to the judgment of these two experts. But we are told the fibre "has long been used by the negroes for making horse collars, foot-mats, etc." If the fibre makes good horse collars, foot-mats, etc., what nobler purpose can it be utilized for? Certainly the community would be much better off if the fibre were made up at home into these articles than if it were gathered and sent to some other community to be manufactured. If the fibre makes good foot-mats, let our correspondent find out what the market value of such mats is, then introduce them everywhere as home product and create a demand for them in the markets of Mobile, Pensacola, Montgomery and many other towns within reach. If he were to offer to buy five hundred or a thousand mats from the negroes in and about Evergreen, we venture to say that the negroes would jump at the opportunity. If the fibre makes good horse collars, let him contract with the negroes to purchase all they will make. If the collars are serviceable and cheap, the farmers in Southwestern Alabama will buy all he can have made. What "nobler purpose" could there be for this fibre than to help toward the in-

dustrial growth of the community in which it is produced? This would be "nobler," while to send it to some other community to be manufactured, never mind into what articles, could only be "noble."

The MANUFACTURERS' RECORD is at the service of the South, and we are always pleased to aid in any way her industrial growth. If any one has anything that he thinks is of value to the world, send it along, as our Evergreen correspondent did, and we will investigate its merits and report its value.

THE American Association for the Advancement of Science is now in session at Toronto, Canada. This association deals with all problems of social and political life as well as with all the late discoveries of scientific investigators. To the multitude most of its deliberations have no interest, for the language of scientific men is too technical and abstruse for the ordinary reader. Now and then some one of the essayists breaks through the traditional barriers of the association, and treats of popular subjects in words and phrases that can be generally understood. One address of this description has created something of a sensation this week. It was an essay on the "Economic and Sociologic Relations of the Canadian States and the United States, Prospectively Considered," by Mr. Charles S. Hill, of Washington, D. C., vice-president of Section I. The position taken by Mr. Hill was that "joined by natural conditions of creation, by ties of consanguinity and language, by bans of matrimony and posterity, these two peoples, of the Canadian States and the United States, must eventually be one and inseparable—inevitably."

This postulate was followed by a lengthy argument, in which wisdom, wit, economic and historical facts were deftly combined to lead up to the conclusion that "there is no future for Canada but in union with the United States, which is to day first in industry, first in educational system, and first in wealth among the nations of the world."

We are inclined to think that Mr. Hill's argument will raise a breeze among the loyal Britons across the border, who already are experiencing much difficulty in obstructing the spread of a fast growing sentiment in favor of annexation.

The importance of Mr. Hill's paper at this time is that in it is discussed the question of national as against commercial union. The one would make us one people with identical interests; the other would make a "side-door entrance," which "would be used exclusively for commercial intercourse with Great Britain," to the serious impairment "of the trade of our Atlantic and Pacific seaport cities."

"Loss of wages, idleness, discontent, and strife would result as surely as such a basis of intercourse should be established with a people that belonged to and were under the

government of a European nation. Were you of Canada an independent people a commercial union would be a very different matter for consideration.

But as long as the Canadian people are under the control of the British government, which now rules the seas and the commerce of the world, to open such a side-door of traffic would be cutting the artery of our industry and bleeding of our workmen to death."

Building Houses in Mississippi for Africa.

Ready-made houses have been an article of commerce for some years, and Chicago has been one of the centers of the trade, but recently a large order for such houses has escaped the magnetism of Chicago's energy and found its way to Lumberton, Miss. The order comes from English capitalists, who own mines in South Africa and are in want of houses and stamp mills, and requires 1,000,000 feet of lumber, which Camp, Hinton & Bros., of Lumberton, are furnishing. Such houses have been built in Mississippi before, but they were on Chicago orders and were shipped to Chicago, thence to New York for exportation. The present order will be sent to New Orleans, then shipped direct to Africa, a distance of some 14,000 miles. By placing the order in this way, directly with the lumbermen, and shipping from New Orleans, it is claimed that \$5,000 is saved.

There is no reason why such orders should not come to Southern mill men, and, with the great saving attending this order, other orders will most likely come direct to the South. No section of the country can fill such orders in competition with the South. Connected with this affair is an incident of importance to the development of the South, and that is the appearance of 30 or 40 skilled workmen from Chicago to assist in framing these houses.

The Meridian (Miss.) News, in giving the particulars of this order, says that these houses and the timbers for the stamp mills, after being shipped 14,000 miles by steamer, will then have to be conveyed 700 miles inland by wagons and ox teams to the gold mines. The stamp mills are of American manufacture, and are to replace English-made mills. With Southern saw mills and creosoting works furnishing the lumber for the Nicaraguan canal, for the gold regions of Africa and for many South American enterprises, it looks as though the South is rapidly pushing out for a big share of the world's trade.

COTTON is pouring into the Southern cities at quite a lively rate, and prices are such as to make glad the heart of the planter. Eleven cents a pound has been the ruling rate in many places, and at this figure cotton yields an exceedingly handsome return to the grower. Notwithstanding the prospects of much the largest crop ever raised, there are good reasons for looking for a high average of prices.

OUR NEIGHBORS.

Some Facts Concerning South and Central America.

"The Most Enterprising City in the World"—A Bank With \$37,000,000 Capital.

[Special correspondence MANUFACTURERS' RECORD.]

SWAMPSCOTT, MASS., August 23, 1890.

THE MANUFACTURERS' RECORD has had a good deal to say from time to time about the trade of South and Central America, and has repeatedly urged the importance, to the South particularly, of closer commercial relations with these countries. This subject is given unusual prominence now by the interest that attaches to the approaching Pan-American conference which will convene in Washington early in October, and will be made up of delegates from the independent nations of the American continent. The main purpose of the conference will be to evolve such methods and laws and treaties as will lead to a more extensive business between the American nations. The delegates that have been appointed to represent the United States are: John B. Henderson, Missouri; Cornelius N. Bliss, New York; Clement Studebaker, Indiana; T. Jefferson Coolidge, Massachusetts; Wm. Henry Trevelock, South Carolina; Andrew Carnegie, Pennsylvania; John R. G. Pitkin, Louisiana; Morris M. Estee, California, and John F. Hanson, Georgia. The appointment of ex-Gov. Pitkin as minister to the Argentine Republic created a vacancy in the delegation, and it was suggested that Mr. T. J. Hurley, of Fort Worth, Texas, be appointed as a representative of the great Southwest. As soon as his name was mentioned in this connection, the governor of Texas, the governor of Nebraska, members of Congress, bankers in the Eastern cities, presidents of boards of trade, and many newspapers sent to President Harrison and Secretary of State Blaine by wire and mail urgent appeals for Mr. Hurley's appointment. Unfortunately, however, he has had to put an end to these energetic efforts by the announcement that he could not serve. Of this fact I was ignorant until I met him a day or two ago, here at Swampscott, where he is staying with his family, and on inquiry learned that an imperative business trip to Europe will make it impossible for him to accept the appointment. I spent the evening in his company and asked him a great many questions about South America. I gathered from the conversation some exceedingly interesting facts. Replying to inquiries as to the industrial and commercial condition of South American countries, their degree of civilization, &c., he said:

"There exists in our land a surprising ignorance concerning that mighty peninsula which contains the Amazon, the La Plata and the Andes. It makes a cosmopolitan smile to hear our people boast about our snap and enterprise, and complacently assert that we are 'the smartest traders on God's green earth,' and all that sort of thing. Why, there is a city in South America, a commonly supposed abode of barbarism, that, in push and enterprise is far ahead of even our Western cities. I mean Buenos Ayres, the capital of the Argentine Republic. Trade centers all over the world consider Buenos Ayres the most enterprising city to-day on the globe. Probably not one man in a hundred knows anything of Buenos Ayres or the country of which it is the capital, or could tell, offhand, just where they are. The population of Buenos Ayres is now nearing the million mark. In 1896-97, 124,000 European immigrants landed there.

Its population is made up of natives, Italians, French, Germans, English and many Irish, the latter there, as here, being influential in political and financial affairs. The city has 146 miles of street cars. It has more telephones in proportion to population than any other city in the world. It is considered the best lighted city in the world. It has eleven large banks, some of them occupying marble palaces. Two of them have a larger capital than any dozen banks combined in the United States. The Bank of Providence has a paid-up capital of \$37,000,000, a circulation of \$22,000,000, deposits amounting to \$60,000,000, with loans and discounts to the amount of \$70,000,000. The other national bank has a capital of \$23,000,000. Fifty-seven large steamers a month arrive and depart, but not one of them flies the American flag. The British government spends about \$800,000 a year in subsidies to mail steamers to Buenos Ayres. As a consequence freight and many of the mails from the United States to Buenos Ayres go via Liverpool. Enterprising Yankees should meditate on that. The Argentine Republic offered to the United States to pay half of a subsidy of \$300,000 to be granted by our government to a line of United States steamers to Buenos Ayres. The city has 20 daily newspapers. The editor of one of them, by the way, is Winslow, the fugitive Boston forger, who, it is said, has amassed a fortune of nearly half a million. There are many other enterprising and rapidly growing cities in South America and in Central America, and new towns are coming into existence all the time.

The Argentine Republic is probably the most progressive of the nations south of us. Every head of a family is entitled by law to 250 acres of land free, and as much more as he may want to purchase, to a limit of 1,500 acres, at 75 cents an acre. Or a settler may acquire 1,500 acres free after five years, by planting 300 acres in grain and 24 acres in timber. They also have free transportation from Buenos Ayres to the place of location, exemption from all taxation for ten years; and the government will loan them money, not exceeding \$1,000, at 6 per cent. per annum, upon the cultivation of a certain area of land, and the erection of improvements of a certain value. As a result of these liberal laws, over a million acres a year are added to the agricultural area. I'd like for some of our Texas mossbacks to chew on that fact.

There are 40,000,000 sheep in the United States, and 100,000,000 in the Argentine Republic. There are 50,000,000 cattle, about the same number as in the United States. More than \$50,000,000 has been paid for wire fences."

"What becomes of all their cattle?" I asked. "Have they packing-houses?"

"Yes," he replied, "the largest in existence. The establishment of the Liebig Beef Extract Co., one of the finest of its kind in the world, is in the Argentine Republic. It employs a capital of \$17,000,000, and for its beef extract alone, 2,800 head of stock a day are slaughtered. Then there is the Great River Plate Company, besides other big concerns. Eight thousand carcasses of frozen beef are shipped every week to London."

Central America is enormously rich in natural resources. The principal natural source of her wealth is her minerals. These are not mined because of lack of capital and transportation. Gold, silver, copper, iron, zinc, opals and coal are plentiful. The rare woods occupy the second place as a source of wealth. There is not a saw mill in the whole country, and all sawed lumber now comes from the United States, although pine forests abound on the Aguan river. The mahogany trees, for height and thickness, have no rival. An idea of the enormous

size they sometimes attain may be had from the statement that at the lowest part of a mahogany tree a trunk of 17 feet in length had a butt measurement of 5½ square feet, equal to 550 cubic feet, and the piece weighed 17 tons. Besides mahogany, Central America contains a great variety of all the woods peculiar to the tropics. They are: the rosewood, lignum vitae, pomegranate, rubber, sandal wood, cedar, pine, all manner and kind of valuable dye woods, gum arabic, the copaiba, liquid amber and many others. The republic of Honduras alone places a value of \$300,000,000 on its timbers.

"The merchants of the United States send to Brazil and the East Indies for coffee and sugar, while on the hillsides of Honduras, Guatemala, Costa Rica and San Salvador, many of the localities less than a week's travel from St. Louis, coffee, chocolate and vanilla, not needed for home consumption are allowed to rot on the ground. It was Central America sugar-cane that received the first prize at the New Orleans exposition. This cane is so prolific that it is cut twice a year, and when cultivated, is only planted about once in twelve years. And at only a cent and a half a pound for the product, will net \$100 an acre. Cotton is there a large tree, growing and bearing for more than 25 years.

Sarsaparilla, quinine, coca, quassia, liquid amber, castor beans, guaco, aloes, belladonna and numberless medicinal plants, many of them unknown, in botanical classification, abound in the mountains. Tobacco, the cultivation of which is only circumscribed by government laws, and which is the source of largest revenue, is sold altogether in Europe, and being in many respects superior to the Havana tobacco, the demand is always greater than the supply, and it is so cheap that good cigars, manufactured under the auspices of the government, sell for a dollar a hundred in Spanish money, equal to about seventy five cents of our currency. Mahogany and India rubber trees abound in all the valleys. English merchants take rubber in exchange for merchandise, allowing 35 to 40 cents Spanish money, for what they sell in England for 75 cents, making big profits at both ends."

What does Central America buy from us?

"Principally flour, pork, beans, canned goods, some dry goods, hardware, boots and shoes and lager beer. Most of the manufactured articles used in Central America are imported from Europe, although the difference in distance in favor of the United States is some 4,500 miles. American flour is worth on the Atlantic coast in Central America about \$12 a barrel; pork and hams 25 to 35 cents a pound; beans, rice and Indian corn 10 cents a pound, and a can of American butter brings a dollar a pound. They buy from us just such goods as they cannot get elsewhere, amounting in value to less than one-half of what we take from them. It is enough to make enterprising men weep to see our next door neighbors going to Europe for everything they need instead of buying from us."

Replying to questions as to the extent of foreign business done, and our share of it, Mr. Hurley said:

"It is estimated that the annual imports of South and Central America are over \$450,000,000 in value. Of this enormous amount the United States sell less than \$50,000,000, the remaining \$400,000,000 going from England, France and Germany. The imports of the Argentine Republic amounted last year to more than \$100,000,000, of which only 7½ per cent. were from the United States. England sold 83 per cent., and France, Germany and Belgium the remainder. The empire of Brazil imports annually over \$100,

000,000 worth of goods, of which the United States sells only about 8 per cent., while England alone sells 45 per cent."

I asked Mr. Hurley why it is that we have so small a proportion of this trade.

"It is due mainly," he said, "to our Yankee self-conceit and hard-headedness. Our manufacturers, instead of making the character of their goods and their methods of packing conform to the needs and wishes of South and Central American purchasers, insist that purchasers shall adapt their requirements to the goods as they are made and packed. Foreign manufacturers are wiser. They endeavor to supply what their customers want, instead of demanding that the customers shall want what they have got to supply. To illustrate: The custom houses down there have certain peculiar rules, and importers, to avoid unnecessary annoyance and expense, must have their goods packed in certain ways, their sheeting and prints put up in certain lengths, &c. Again, the method of transportation is by means of trains of mules. A mule load is 200 pounds, and goods must be packed in 100-pound packages, so that a bag or barrel or box can be carried on each side of a pack saddle, and so on. European manufacturers make and pack their goods to meet these and other minor requirements. The United States manufacturer says 'If you don't want my goods as they are you can let them alone.' And the obliging natives let them alone."

In the lower half of the Western Hemisphere, including Mexico, there are 50,000,000 people who, in a commercial sense, hardly know us, and yet there is every reason why there should be between them and us the closest commercial and political ties."

There is food for thought in all that Mr. Hurley says, and if this Congress of American Nations shall succeed in arousing the American public to a sense of the importance of this matter, it will have accomplished enough to justify its assembling.

WILLIAM H. EDMONDS.

ENGLISH capitalists are said to be bidding for the purchase of the Thomas Iron Co., of Pennsylvania, with its dozen furnaces. If the average English capitalist is as shrewd and far-seeing as he is generally supposed to be, he would prove this by investing his money in the South, rather than in an iron plant in Pennsylvania. The South is to be the center of the world's iron and steel trade.

Kentucky's Railroad Interests.

LOUISVILLE, August 20, 1889.

Editor Manufacturers' Record:

In your editorial summary of the increase of railroad mileage in the South since 1880, published last week, the present mileage in Kentucky is put down at 2,584.93. The corrected official report of the State Railroad Commission puts the mileage in 1888 at 2,601, which is rather under than over the fact. The increase in three years has been 675 miles and in 1888 was 312 miles. The completion of the very important Kentucky Union system from Lexington, Ky., to Big Stone Gap, Va., this year and the opening of the long-expected tunnel at Cumberland Gap to the Louisville & Nashville system are two events that are worth ten times the mere mileage recorded. These penetrate to the heart of the timber, coal and iron deposits of Kentucky and open territory that has heretofore been almost as inaccessible to modern commerce as Central Africa.

Y. E. A.

The MANUFACTURERS' RECORD's statisticians were from Poor's Manual, and were so credited—Editor MANUFACTURERS' RECORD.

TEXAS BESSEMER ORES.

High Grade Ores in Inexhaustible Quantity.

A FUTURE STEEL AND IRON CENTER.

The MANUFACTURERS' RECORD has repeatedly referred to the great Bessemer ore deposits in Llano county, Texas, which are being investigated and opened up preparatory to active work of development on a large scale. All the reports so far made seem to indicate that the finest Bessemer ore property ever discovered in America is the Llano and Mason counties ore district. In a letter to the MANUFACTURERS' RECORD, Mr. George M. Wakefield, of Milwaukee, who has been carefully investigating this district for several years, says:

"I have been engaged in helping to develop new iron districts for the last 25 years in Northern Michigan and Wisconsin, and I feel that, without exception, the iron district of Llano and Mason counties is one of the finest on earth, and one of the most easy to be developed and brought into the market. It wants a little time, and the business should be taken hold of by men who are thoroughly versed in the manufacturing of iron and steel. We have everything on the ground to make any article of the same from a razor-blade to a steel rail, and at a price that will compete with any place on earth, I believe."

The quality of these ores is best shown by analyses made by Davenport Fisher, of Milwaukee, and by the North Chicago Rolling Mills, of outcroppings from the different localities in Llano and Mason counties:

| Iron. | Silica. | Phos. | Mang. | Sulphur. | Titanium. |
|-------|---------|-------|--------|----------|-----------|
| 69.30 | 3.83 | .034 | Trace. | None. | None. |
| 67.95 | 2.89 | .034 | Trace. | Trace. | None. |
| 69.17 | 2.99 | .009 | None. | None. | None. |
| 60.49 | 15.67 | .020 | Trace. | None. | None. |
| 63.74 | 10.08 | .018 | Trace. | None. | None. |
| 67.97 | 4.83 | .018 | Trace. | None. | None. |
| 70.25 | 1.23 | .014 | Trace. | None. | None. |
| 66.27 | 2.81 | .047 | Trace. | Trace. | None. |
| 68.82 | 2.39 | .038 | Trace. | Trace. | None. |
| 67.43 | 4.93 | .059 | Trace. | Trace. | None. |
| 71.15 | .95 | .008 | ..... | ..... | ..... |
| 71.27 | .34 | .008 | ..... | ..... | ..... |
| 70.18 | .19 | .001 | ..... | ..... | ..... |
| 65.97 | 3.04 | .001 | ..... | ..... | ..... |
| 65.43 | 4.01 | .018 | ..... | ..... | ..... |
| 67.83 | 1.91 | .020 | ..... | ..... | ..... |

Analysis of manganese from two locations from the same district: Manganese, location No. 1, analysis by Davenport Fisher—Iron 2.22, silica 10.22, phosphorus 0.12, manganese 64.60.

Analysis by Carnegie Brothers & Co—Iron 1.10, silica 5.85, phosphorus .042, manganese 56.57.

Analysis by William J. Rattle, of Cleveland, Ohio—1st, manganese 61.59, phosphorus .025.

Manganese, location No. 2, analysis by Davenport Fisher—Iron 3.80, silica 21.12, phosphorus .024, manganese 48.54.

Analysis of iron ore made by N. T. Lupton, State chemist, of Auburn, Ala.:

Sample No. 1, red oxide or hematite—Sand and insoluble matter .054, sulphuric oxide .046, phosphoric oxide a trace, ferric oxide 97.04, aluminic oxide 1.45, moisture and volatile matter 0.70; total 100.19; equivalent to metallic iron 67.93.

Sample No. 2, black oxide or magnetite—Sand and insoluble matter 0.51, sulphuric oxide 0.61, phosphoric oxide a trace, ferric oxide 98.63, aluminic oxide 0.05, moisture and volatile matter 0.00; total 99.80; equivalent to metallic iron 71.42.

Sample No. 3, red oxide or hematite—Sand and insoluble matter 0.61, sulphuric oxide 0.50, phosphoric oxide a trace, ferric oxide 98.47, aluminic oxide 4.12, moisture and volatile matter 1.35; total 100.05; equivalent to metallic iron 65.43.

Mr. Wakefield also mentions "two manganese properties, one of which is probably one of the finest that has ever been found, and this property I have tested very thoroughly with diamond drill, having cross-cut the vein in 21 different places and showing a width of between

8 and 9 feet on an average, varying from from 3 to 15 feet at the different places where it was cross-cut. A portion of the manganese is very rich indeed, and I should judge from the work that has been done about one-half will show 58 to 63 per cent.; the other half, where it is more mixed with quartz, will show by analysis from 30 to 45 per cent., making an average of at least 50 per cent. The second location not much work has been done on, but at the surface it shows about 30 per cent. The list of analyses that is herewith attached will show the results as made by some of the best chemists in the country, and is a fair average of the ore as taken from the surface. A great many other analyses showing equally well have been made at other points, but I consider the annexed sufficient for all practical purposes. I look upon this iron district as one of the finest that has ever been developed on this continent, and the location could not be better, it lying in just about the geographical center of the State of Texas, and as there are no steel works or rail mills nearer than St. Louis, a distance of about 800 miles, it is one of the most advantageous places for establishing a steel plant and the manufacturing of rail, or, in fact, for the manufacture of all kinds of material made from iron or steel, that can be found on the continent.

Within the past year a good coal for steam purposes has been developed and mining is going on within 65 miles, and coal has been found very much nearer. To the south and within 100 miles has been found a good coking coal; however, I do not know enough in regard to this to make any extended report in regard to the same. But as reported by Mr. McCracken from 235 to 300 miles in the Sabins valley of Mexico is as fine a body of bituminous coal as can be found, and a large amount is being mined and coked there at present. The nearest line of railroad to the southeastern portion of our district is now within 23 miles, known as the Austin & Northwestern. The Santa Fe system is within 33 miles, and several lines contemplated and are building through the district. One, the San Antonio & Aransas Pass, is being graded from its terminus south to the town of Llano this season, and will be completed, I understand from those interested in the same, as soon as men and money can complete it. This road will doubtless be extended lengthwise of the iron district and also to the northeast, making connection with others roads and at the same time connecting them with the coal fields of the Indian Nation. The district is too valuable to lie idle long, and it is very surprising to me that it has not been more thoroughly developed and wrought before this.

Mr. Henry Exall and others interested with him are contemplating the erection of furnaces at the town of Llano, and are also interested in the building of a railroad to that point. They have bought some valuable iron properties in the district, and are now test-pitting them, I understand, by shafts and drifts. However, I think plenty of work has been done to satisfy the most skeptical who are versed in the iron business, as it is a well-known and established fact, I think, the world over, that wherever this grade of ore is found, with the formations that exist there, viz., quartzite and granite, it has lasting qualities. And there is no end to the depth these workable deposits of ore can be worked; the only difference being that, in deep mines, the expense is greater in keeping them unwatered and hoisting the ore. However, that requires years. And there is enough ore in this district to last for one generation, in my opinion, without working any mine to a greater depth than 500 feet.

As to the locality for manufacturing

cheaply, there could not be found a better one in our country, as the surrounding country is a fine grazing and farming one, and raw material which will be required can be bought very cheaply. Labor can be secured as cheaply there as elsewhere; and with one of the most healthful climates in the world, and no snow or frost to contend with, with abundance of splendid water and water-power, limestone for flux, good coking coal in the near vicinity, manganese upon the ground, I think no place can be found on the continent where iron and steel products can be produced for less money. The ore in this district can be mined and shipped to Philadelphia, or to any other Southern iron district to be mixed with theirs, and at a cost which will compete favorably with the Lake Superior ores now being shipped to the East; but it would seem very foolish to me to do anything of this kind. Why mine and ship the raw material hundreds of miles to other localities when the manufactured product is wanted in the immediate vicinity, and to a very large extent? The State of Texas being some five or six times the size of our ordinary States in the West, it of itself requires an immense sight of the manufactured product from this raw material. Adjoining it is a country also demanding large amounts, and it is for this reason that I claim the manufacturing should be done upon the ground where the iron and other raw material is mined. However, if parties engaged in that see fit, as I have said before, the product can be shipped with a good profit to the East, and perhaps to other Southern locations to mix with non-Bessemer ores.

Some of the Alabama papers have been advocating the importation of Cuban ore to use in Alabama furnaces in making Bessemer steel. Llanocounty can furnish even a higher grade of ore and possibly at as low a cost as Cuba. The subject is worth investigating.

THE Meridian (Miss.) News reprints the article recently published in the MANUFACTURERS' RECORD on soap making, and earnestly calls the attention of its readers to the need of such an industry in Meridian. In its comments the News says:

There is no reason why good soap cannot be made more profitably here than it can by the soap makers in the North, as we have right at our door, so to speak, the very best material for making it. Cotton-seed oil is made here, and it is but a short distance to where any amount of rosin can be had at low rates.

The News respectfully suggests to the merchants of this city who handle soaps that they form a stock company, and engage at once in the manufacture of this article which enters into the consumption of every family, more or less, in the land, and there is no prophet needed to foretell success for it from the very beginning.

It is a well-established fact that several small industries are fully, if not more beneficial, to a city than one large one, and a number of such are within our reach, and our business men should not hesitate to avail themselves of the opportunity.

The News thus voices the sentiment of many other live towns in the South that have reprinted our article.

THE MANUFACTURERS' RECORD is emphatically the Southern journal of industrial information and development. Probably it has done more good, intelligent and useful work as applied to Southern material interests than any other paper in the South, and that because it has applied itself industriously, persistently and ably to that object. Not a State in the South has escaped its closest scrutiny; not an industry that has not been examined, estimated, approved, or condemned if delusive or valueless.—Asheville (N. C.) Citizen.

Mr. Edward Atkinson's Views

Regarding the Possibilities of Cotton Seed and Its Relation to Southern Agricultural Interests.

SOME INTERESTING SUGGESTIONS.

A few weeks ago Mr. O. Farnum, of Jamison, S. C., a prominent farmer interested in the possibilities of cotton seed hulls as food for live stock, a subject which is now attracting much attention, wrote to Mr. Edward Atkinson for his views upon the matter. Mr. Atkinson's letter is of such general interest to the South that Mr. Farnum has sent it to the MANUFACTURERS' RECORD for publication. In commenting on this letter Mr. Farnum says:

I think his theory a good and practical one, and that it would greatly improve our present methods, but I am doubtful if it could be successfully undertaken until our labor becomes better educated and there is more capital here. These are the most important factors needed, in my judgment, for the success of this cotton-growing region. The recent development in the cotton-seed industry will undoubtedly prove a revelation to this cotton region, and to Mr. Atkinson, more than to any other man, is due the credit of this most valuable industry to the South. Please calculate the commercial value of the seed of 7,000,000 bales; the commercial value of the meal, \$3 per ton more than corn meal; the oil, classing well up in value to imported oil, and the industry yet in its infancy; the hulls for stock, meal for stock and fertilizer, oil for domestic use or export, with no limit to demand! Has America ever developed an industry like it?

In this connection it may be well to publish here an extract from a private letter received some time ago by the editor of the MANUFACTURERS' RECORD from Mr. Atkinson, in which he said:

The startling suggestion may be made that it is within the bounds of possibility that the fibre of the cotton plant shall become a secondary product, and that its chief value may become that of a food-producing plant.

This is indeed a startling suggestion, but the variety of products now obtained from cotton seed, once despised and counted of no commercial value, is so great that it may prove true. Cotton-seed oil is destined, we think, to hold a very much higher rank than it has yet taken, and to very largely supplant lard for many purposes. Now, cotton seed oil is spoken of as an adulteration when used in making lard, when it ought to be the other way, for this fine vegetable fat or oil is seriously adulterated when mixed with the coarse animal fat of the hog.

Mr. Atkinson's letter to Mr. Farnum is worthy of thoughtful reading:

Boston, July 29, 1889.

O. FARNUM, Esq.,
Jamison, Orangeburg, S. C.:

MY DEAR SIR—When a man of your intelligence and of your long experience in growing cotton comes to ask one, a Yankee, who never was a farmer, and who has only a theoretic knowledge of the cultivation of cotton, "whether or not cotton-seed hulls can be nutritious food for cattle?" it begins to appear that the agri-

cultural schoolmaster is not abroad, or at least that he has not secured many pupils. I will therefore venture to repeat some of the elementary points of the theories which I have presented in regard to cotton at various dates, from 1861 when I published my first pamphlet, "Cheap Cotton by Free Labor," down to the present time.

I premise that the day has gone by for working land as a mine subject to exhaustion, and that the time has come for working land as a laboratory or instrument of production, which may be made more productive year by year by making it more profitable in the process of working, i. e., as the crop grows bigger the land may grow better.

The function of the cotton plant, as of all other plants, is to produce seed. The product of cotton seed, if I am rightly informed, is from two and a-half to three times the weight of the cotton fibre. The cotton fibre is only the wing of the seed. Nature concentrates in the seed the elements which will support the infant plant until the roots have been developed so as to derive nutrition from the soil. What, then, are the elements which the soil must yield to the cotton plant for the production of the cotton seed and of the cotton fibre? By analyses made at various times in different places. It appears that the fibre is nearly pure "cellulose" composed almost wholly of carbon, which carbon is derived from the atmosphere.

On the other hand, the seed is stored full of phosphate of lime, phosphate of potash and other elements which are necessary to sustain the first shoots. The proportions of these ingredients which are drawn from the soil and not from the atmosphere, are substantially as follows: In a bale of cotton of five hundred pounds, four pounds mineral elements; in the seed from which that bale of cotton has been taken, fifty pounds or thereabout. Therefore, under the old practices of the old bad times when the seed was left to rot, the properties of the soil were being wasted.

On further investigation of the elements of the seed, it appears that a certain valuable proportion of the weight of the seed consists of oil, which is also mainly carbonaceous and which may be removed without impairing the fertilizing properties, and also without impairing the feeding properties of the seed, if the object of feeding is not to make fat, but to make flesh and milk. In fact, under the ordinary method of treating the cotton seed by compression, too much oil is left in the cake, and it needs to be extended or reduced in richness, in order that it may serve the best purpose of nutrition. But again, if I am rightly informed, and you will bear in mind that all these statements are results of inquiry rather than of observation, only about one-half the phosphates of lime and potash of the seed are contained in the kernel; the other half is in the hull.

Now then, if the cotton-seed meal made exclusively from the kernels, even after the utmost compression, is too rich to be safely fed by itself, what better material could be made use of for increasing it in bulk and diminishing the portion of fat than the hulls; either in the condition in which they come from the decorticator, or else ground finer in order to be more readily digested. Manifestly such is the only proper use of the hulls, since they contain a large proportion of the mineral ingredients which have been drawn from the soil. It goes without saying that if it becomes necessary to leave the plant on the field until it has become too hard and dry to be also converted into forage, in order that the entire crop of fibre may be gathered, the plant or stalks and roots should be ploughed in as they now are. But I question very much whether the latest part of the cotton crop would be worth as

much as to cut the cotton stalks while the plant is still green, such plants to be converted either in the silo, or in some other way, into forage for animals. You may ere long not only convert the hulls of the seed, but the whole bulk of the cotton plant itself, which is also full of nutritious elements, into forage, and restore it to the soil through the animal.

I will again repeat other possibilities. There are valuable elements in the rest of the cotton plant. It contains tannin, and it contains other elements for dyeing which have never been fully investigated. I doubt if the fibre in the cotton stalk will ever pay for separating it from the softer portions. Now then, if it be admitted,

1st—That the fibre of cotton may be taken from the field, and also,

2d—That the oil may be taken from the field, without removing any important element from the soil.

If it next be admitted that the oil cake, the hulls and probably the plant itself, should be restored to the soil by way of feeding it to animals, how shall that purpose be accomplished in the best way?

It might be the best way to serve all this food to cattle only, but this I doubt. The same land which may produce cotton will also produce maize or Indian corn, and cow peas. I suspect that if cotton is king, the cow-pea vine is queen, for the reason that the cow-pea vine possesses the power of deriving nitrogen from the air and converting it into the soil in some way which is not yet comprehended. It is a renovating plant of the first order and it will grow anywhere in the cotton country.

The element which is wanting in the soil more than any other is nitrogen. The Southern soil, both that of the uplands, which consists of the disintegrated rocks of the country, which have never been subjected to glacial action, and also the soil of the lowlands, which is full of infusorial insects and shells, supplies phosphates and potash in abundance. But even if the phosphates and potash are deficient, they can be readily supplied at very low cost from other sources. Nitrogen, however, is the most necessary and at the same time the most costly element required by the soil in the production of cotton as well as in the production of meat, milk and almost all other articles of food. The plant which can borrow nitrogen from the air and put it into the soil, is therefore the queen, and the dominion of the cow-pea vine has not yet been fully recognized.

If this theory is well grounded, it follows that your cattle should be fed with corn stalks and cow-pea vine cut together into the silo. This theory has been established in practice by the late Colonel Garrett, of Enfield, North Carolina, and by many others. Hence it follows that while one field may be cultivated in corn and the next field in cow-pea vines to furnish food for cattle, the cotton field ought to be fed with that part of its own product which should be returned to the soil in another way, and that is by feeding sheep upon the cotton field.

Sheep will even thrive on the whole cotton seed, but that is a wasteful way of using it. They will thrive better on the ground meal and hulls, and the oil will more than pay for its own removal. Hence the cotton field should become the third field of a series of four; the sheep to be fed on the secondary product of the cotton plant during the winter, at the same time fertilizing the soil in the best manner. They cannot, however, be left there while the cotton crop is growing, hence the fourth field should be the paddock for the sheep and the cattle. It is easy to imagine four fields of a hundred acres each, enclosed in a dog-proof wire fence; each field also fenced off from the other, with a big shed opening one year

into No. 1, the next year into No. 2, the next into No. 3, and the next into No. 4, under which the cattle and sheep may be sheltered in storms and in the winter. Such a farm would not only make the owner rich, but would make the soil richer yet for his children. Who will realize this theory? The dog-proof wire fence can be furnished by the Washburn & Moen Co., of Worcester, at very low cost.

All this I have spread before you Southern people more than once, and yet at this late day you come to me in Boston to ask me if it could be true that the cotton seed hulls were good food for cows!

Given four hundred acres of level uplands in the Piedmont district of fair quality, what would be its potential?

*Again I must speak theoretically, as I have no practical knowledge upon the subject. Fifty pounds of ensilage made of corn stalks and cow-pea vines would be a large ration for a steer or milch cow per day. Ten tons per year would there fore suffice for one beast.

According to our Northern standard, an acre of corn ought to make twenty tons of ensilage; much greater crops have been grown. I do not know the product of the cow-pea vine, but should assume that five to ten tons of green fodder could be grown per acre on reasonably good land. We might assume the joint product of a hundred acres in corn and a hundred acres in cow-pea vines at twenty-five hundred tons, which would be a year's ration of complete food for about two hundred and fifty head of cattle.

Assuming that the next hundred acres had been brought into good condition, the product might be a hundred bales of cotton of five hundred pounds each; say a thousand pounds of ground meal and hull to each bale after the oil had been pressed out. This would be fifty tons of the most nutritious food for sheep, aside from what they might browse on the cotton plant after the picking was over.

I assume you might fold two hundred and fifty sheep on the cotton field; added to cattle they would make five hundred head of stock. But if I am rightly informed, the same land which will produce cotton and cow-peas will also grow chufas and peanuts, which I believe hogs will root for and get fat upon.

It might, therefore, be judicious to devote some part of the field to the support of a hundred hogs, and we might then safely estimate two hundred head of cattle, two hundred sheep and one hundred hogs to the three hundred acres devoted to corn, cow-pea vine, chufas and peanuts.

I should then expect such a series of four fields to be worked in rotation; maize, pea vines, paddock for beasts and cotton, year by year, one following the other. Is that visionary? Work somewhat analogous to this is conducted on Northern and Western farms, cultivated by such men as yourself, and even better results have been obtained.

I assume that on your light soil of the Piedmont district, animals would keep healthy, the ground would be well drained, the sheep would be free from foot rot, &c. But you know much more of these matters than I do. I venture to give you this theoretic reply to your question, "Whether or not cotton-seed hulls can possibly make a good food for cattle?"

EDWARD ATKINSON

*Mr. Farnum adds the following comments: "I would suggest you reduce these calculations to at least one-half, as they are so far in excess of what we are accustomed to make."

ADVERTISERS wishing to reach manufacturers of all classes, mining companies, steel, iron and hardware dealers of the entire South, cannot find a better medium than the MANUFACTURERS' RECORD

A Progressive Young City.

A City Four Years of Age, with Four Thousand Inhabitants and Over Forty Factories.

The Atlanta Constitution of last Sunday contained a letter descriptive of Sheffield, which so strongly points out the rapid growth of that place as an illustration of what the South is doing, that we republish it in full:

"The brief history of the wonderful infant city of Sheffield makes a remarkable showing.

And it demonstrates that "The Iron City on the Tennessee" within a few years will rank among the dozen leading cities of the South.

In the fall of 1883 Capt. A. H. Moses, then a prominent banker of Montgomery, while in Florence, was invited to visit the mineral regions in Franklin and Walker counties.

On his way he passed through an immense plantation on the banks of the broad and picturesque Tennessee. Near this plantation were immense deposits of then undeveloped brown hematite iron ores, and on the banks of the river were great walls or cliffs of limestone. Not far distant were inexhaustible coal fields.

He at once realized that this great plantation, in the midst of all that goes to make iron and at the head of navigation on the Tennessee, was the place for a great city.

He, with a few associates, bought the land.

Early in 1884 they organized the Sheffield Land, Iron & Coal Co., and commenced work laying off their land, consisting of 2,700 acres, into a town site.

In May of '84 the first lots were sold at auction. Sheffield was then nothing more than a cotton field, but those present seemed to realize that its future must be great, and the first lot offered brought \$1,000. The highest price paid was \$8,900. This was paid by an Atlanta man for a corner lot on Montgomery avenue, the principal thoroughfare of the city. When the sale closed there had been sold \$355,000 worth of lots. With this sale the success of Sheffield was assured. The company was composed of the most experienced business men and capitalists. It was capitalized at \$1,000,000, with 2,700 acres of Sheffield real estate and with mineral rights in 30,000 acres of iron and coal lands.

Then the land company commenced work to secure manufactures and railroads, the Memphis & Charleston at that time being the only railroad that touched Sheffield. Small industries commenced locating here, and in 1886 over \$600,000 worth of property was sold in a month based on contracts being made by E. W. Cole and associates, of Nashville, for the erection of three blast furnaces of 150 tons daily capacity each. Work was commenced on them immediately, and they were completed about a year ago.

About the same time the construction of two more furnaces was commenced, and they too were completed a short while ago. Two of the five furnaces are now in blast. The fires have been started in two more, both of which will be in blast within thirty days, and the fifth, just completed, will go in blast within less than sixty days.

In the meantime railroad building was commenced, and to-day Sheffield has three—the Memphis & Charleston, the Sheffield & Birmingham, and the Nashville, Florence & Sheffield Branch of the Louisville & Nashville. Two more lines are now being built, and two are being surveyed. Then there are two lines of boats on the Tennessee, giving Sheffield a rate of \$1 per ton on pig iron to St. Louis, the Western

pig iron market, while other Alabama points pay \$3.50 per ton to the same point.

Sheffield's growth.—With these furnaces, railroad and boat lines, together with many manufactories, Sheffield is growing faster than any point in the entire South. Although it has only 4,000 inhabitants now, new people are coming in daily, and within a year the most conservative estimate that its population cannot be less than 10,000.

Its taxable property.—In 1884 the taxable property of the entire county was only \$1,245,000, while this year the taxable property approximates \$7,000,000. There is now invested in buildings and manufactures about \$4,000,000, immediately in the little city.

A view of Sheffield.—Standing upon the top of the elevator of one of the mammoth furnaces, and looking over this magnificent infant city, one is loth to believe that so much work could have been accomplished and such a complete city could have sprung up in four short years.

Right under your feet flows the broad Tennessee, with its beautiful islands and picturesque great high cliffs rising from twenty to one hundred feet above the surface of the water. For miles and miles the river is visible, flowing through rich green fields and cutting its way through the mountains. Beneath you loading at the wharf is a big river steamer, while in the distance two more are seen steaming toward Sheffield, bringing Western produce and to return with Sheffield iron and the products of her many and varied manufactures.

Turning you gaze upon Sheffield, with its handsome business houses and dwellings on the one hand and its many manufactories on the other. Forty-three lofty smoke-stacks loom up and from each a dense cloud of black smoke is pouring forth, while above you there floats off great banked clouds of smoke.

The furnace below is making a run, train loads of ore, coke and limestone are coming in while trains of pig iron are going out. A few hundred feet off the stove works loom up, where scores of first-class cooking stoves are made and shipped away daily.

Near that is the straw hat factory turning out 3,000 hats daily, from the most expensive mackinaw to the cheapest grades of hats. Adjoining is a shoe factory employing about forty hands and turning out a few hundred pairs daily.

Next is an iron and brass foundry.

Then a large foundry and machine shops, a large woolen mill nearing completion, the building 250 feet long by 50 wide, a galvanized iron cornice factory, a very large cotton compress, a large flour and grist mill, a furniture factory, wooden variety works and planing mills, a half dozen brick-yards, the electric-light works, the water works plant, mineral paint works, agricultural implements factory, spoke and handle factory, an ice factory, the principal shops of the Sheffield & Birmingham Railroad, a patent medicine factory, a large steam laundry and dozens of other small enterprises.

Then there are a dozen handsome brick and stone business blocks completed, and stores and dwellings by the hundred under construction. The new \$125,000 hotel building is looming up, while the \$50,000 office building of the land company is nearly completed.

Above, in the residence portion, and especially in a beautiful park overlooking the river, many dwellings, and handsome ones, are going up.

A beautiful park.—This park is one of the most beautiful places, perhaps, in the world for a home. It is fully one hundred feet above the river, and overlooking it, in the midst of a grove of great oaks. Beautiful drives have been made circling around the hills and running down into the valleys. A dozen handsome dwell-

ings have already been completed here, and many more are under construction. The drives are macadamized with that peculiar substance found here, which, when placed upon the streets and rolled, turns from a red to a light gray and becomes as hard and lasting as asphalt.

Dr. Haygood's Female University.—This park is only about a half mile from the principal business blocks, and in it, upon the very highest point, are the twenty-two acres donated by the land company to the female university Dr. Haygood, of Georgia, is to build. The company also gives him a handsome home, which they have already commenced building.

This university is to be the most complete female school in the entire South, and the equal of any in this country. There are to be five separate and distinct buildings to cost \$40,000 each, or a total of \$200,000. One building will be used as a dormitory, another for an academic department, a third for art and music, a fourth for languages, and the fifth for physical culture. Dr. Haygood expects to raise a million dollar endowment fund. The building of the university will commence in a month or two.

Besides this college, the contract for a \$25,000 public school building has been given out, and it is expected to be completed in time for occupancy this fall. There are already two public schools here and many private ones.

In fact everything is being built in Sheffield. People of pluck, energy and wealth are at the helm, and they are determined to make it the greatest of Alabama's cities.

The land company is composed of men who realize that money must be spent to make a large city, and they are spending it. Mr. W. L. Chambers, the general manager of the company, is a business man who knows what must be done to make a city, and he is doing it. To any man or party of men who will establish a manufactory of any kind here the land is donated, and in many instances donations of money have been made. The company is extremely liberal and spares no time nor expense in their efforts to build up Sheffield.

Sheffield's freight.—When the five furnaces of Sheffield are in operation it will take over four hundred cars a day to bring in the raw material and carry out the products of the furnaces alone, which is more freight than a commercial city of a dozen times its size will furnish. Then when the \$300,000 rolling mill and the various other manufactures now on foot and under construction are completed, with the commercial business of the city, it is believed this will be increased to at least five or six hundred cars.

As a commercial point Sheffield has already forged to the front. Her river freight rates on Western produce and goods of all descriptions give her an advantage over all other North Alabama towns, and already she is doing a small jobbing trade. She, however, needs large wholesale houses of all descriptions, and there is no better opening for them anywhere.

Her cotton receipts last year reached 1,600 bales, all of which were compressed right here, and Mr. H. C. Howell, the proprietor of the compress, and by the way a Georgian, hailing from Rome, says he expects not a bale less than 30,000 this season. On account of water competition the railroads give Sheffield a very low rate, and her cotton men expect to control the cotton business of all North Alabama.

Sheffield is indeed a wonderful city, and within ten years it will rank among the very first of Alabama's cities."

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Correspond with Jas. W. Waters, Sec'y.

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We are in the center of a most magnificent timber region. Wood of all kinds in abundance, and the best facilities for transporting to the mill and from the mill to market.

We are very anxious to develop our section by establishing factories. We have everything except capital, and we will make it pay capital to come to us.

We know that people flock to the booming sections, but still we do not want a boom, but a good, substantial and steady growth, such as we have had for the past ten years. The point is now reached with us that we can go no farther without capital to assist, and it will pay capital to investigate what we have to offer.

New Berne is now offering every inducement possible to aid manufacturing investors who will establish enterprises adapted to the natural advantages of this section. Address

Secretary New Berne Board of Trade**Charlottesville, Va.**

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Home capital will join in the establishment and operation of factories.

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To Those Looking

—FOR—

**Manufacturing Sites
IN THE SOUTH.**

The most desirable locations in the South for manufacturing wagons, stoves, agricultural implements, furniture, or for foundries, machine shops, rolling mills and nail works, glass works, cotton or woolen mills, are to be found in Virginia along the line of the Norfolk & Western Railroad from Norfolk to Bristol, and upon its branch lines. Hard wood of every variety; cheap iron from the furnaces at Lynchburg, Roanoke, Radford, (to be built in 1889,) Pulaski and Ivanhoe; cheap coal and coke from the celebrated Pocahontas Flat Top field; glass sand from Tazewell county; cotton from the markets of the Southern States, and wool from all the Western and Southwestern States and Territories, at advantageous freight rates. Favorable freight rates made upon raw materials to all factories established upon its line, as well as to points in the United States and Territories upon the manufactured articles.

Those seeking new fields for manufacturing establishments should not fail to investigate the wonderful development in iron, coal and coke industries that has been made within the past five years along the line of the Norfolk & Western Railroad, and the advantages offered by the State of Virginia in the supply of cheap raw materials; by the Norfolk & Western Railroad in the matter of freight facilities and rates upon raw materials, and for reaching home, far distant and foreign markets, and by the cities and towns along its line in the way of advantageous sites at moderate cost. Many of the cities and towns exempt manufacturing establishments from taxation for a series of years.

For further information as to freight rates and sources of supply of raw materials, apply to A. POPE, General Freight Agent, Roanoke, Va., or to

CHAS. G. EDDY,
Vice-President, Roanoke, Va.

RADFORD, VA.**Town Lots, Mineral Timber and Farm Lands.**

We have many large and small tracts.

Iron Ore, Coal, Glass, Sand, Marble, Building Stone, and Several Mineral Springs, of Wonderful Curative Properties.

The best of farming and grazing lands. No malaria. No mosquitoes. Salubrious climate. Gorgeous scenery. Water power unlimited. Factory sites donated. Property at first hands, so get in on "rock bottom." Write to, or call on

BARCLAY & CROCKETT,
The leading Real Estate Agents of Southwestern Virginia, RADFORD, VIRGINIA.

FLORENCE, ALABAMA.

Investments in Stocks, Bonds and Real Estate. Correspondence solicited. Information gladly given. Address

DILLARD & WALTON,
Florence, Alabama.

**WILMINGTON,
NORTH CAROLINA.**

This pleasant and growing city invites enterprising citizens and capitalists from all parts of the civilized world.

\$150,000 Freedom from Municipal Taxation. \$150,000**Splendid Opening for Men of
Push and Energy.**

The City of Wilmington has made an appropriation of \$150,000 for the purpose of encouraging manufacturing.

ADVANTAGES OFFERED.

Climate favors work the entire year. Labor abundant and cheap, living economical. Freight rates are low by rail to interior points. Shipping rates by steamships and vessels low to all parts of the world.

NO BETTER POINT FOR PROFITABLE INVESTMENT.
We have the raw material in abundance.

Facts About Wilmington.

A seaport city of 25,000 population. An important naval store, cotton and lumber market. Extensive shipping interests. A secure, fresh water harbor. Depth of water on bar 18 feet at mean high water; under government supervision, being continually deepened.

Excellent terminal facilities. Four railroads in operation, two in process of construction. Surrounded by attractive summer resorts. Adjacent territory especially adapted to trucking, peach growing, vineyards and rice culture. Drainage excellent.

Health and climate unsurpassed. An all-the-year-round resort. **THE LONG BRANCH OF THE SOUTH.**

Excellent schools and churches of all denominations. A cordial welcome extended to all good citizens and men of push and intelligence.

Three banks, with ample banking facilities. Among the manufacturing enterprises now in operation are numbered: Cotton, Pine Fibre, Fertilizer, Wood Working and Ice Factories; Rice, Flour and Planing Mills; Foundry, Machine Shops, Gas, Electric Light Plants, Cotton Compresses, Crooked Lumber, Car and Water Works.

We invite all to come and see, and on the spot to judge for themselves. Wilmington offers excellent hotel accommodations, and a committee of its Chamber of Industry will extend to strangers seeking home and investment cordial greeting and attention.

Persons who may desire fuller information can obtain it by addressing

The Chamber of Industry, Wilmington, N. C.

GEO. T. McWHORTER, President, Chickasaw, Ala.

JAS. M. ALLEN, Secretary, Waterloo, Ala.

Capital Stock \$200,000.

THE

Waterloo Land, Mining & Mfg. Co.

of Waterloo, Lauderdale Co., Ala.

will encourage the location of manufacturing and industrial enterprises in the town of Waterloo by donations of town lots, mineral and timber lands, and stock of the company. Persons who contemplate engaging in enterprises of this character in North Alabama are requested to consider the advantages, present and prospective, of this point before deciding to locate elsewhere. Waterloo is situated on the north bank of the Tennessee river, below Colbert Shoals and consequently at the head of summer navigation on said river. During low-water stage light draft steamers run from Waterloo to Florence, Sheffield and other points above the shoals, freight being transferred at Waterloo. At this season goods may be billed from St. Louis, Cincinnati, Louisville, Evansville and all Western river cities to Waterloo cheaper than to any other town in Alabama. Chickasaw excepted. Waterloo is in the heart of the mineral belt, the immense beds of iron ore of Wayne and Lauderdale Counties lying in close proximity (5 to 10 miles). Limestone, silica and kaolin are abundant and close. The largest area of virgin forest in North Alabama lies in sight. The Land Company owns large bodies of this, together with many valuable town lots. The water supply is abundant and pure. Scores of springs bubble up within the town limits and the limpid waters of Second Creek wash the eastern border. The health of the community is unexcelled and the cost of living cheap. This is the largest shipping point for tan bark in the state. Present price of bark at landing \$4.50 per cord. Special facilities for tanning leather. The Land Company will donate a large body of fine timber and mineral land in a block to secure the construction of a railroad, north or east from Waterloo, such a road being needed in connection with the unequalled facilities of water transportation enjoyed by the town. Liberal aid will be given to persons who will locate industries here that give employment to labor and add value to raw material.

No matter what you intend to manufacture, consult the Waterloo Land, Mining & Manufacturing Co. and learn what facilities for the prosecution of your business the place enjoys and what inducements will be offered you to come. All questions truthfully and fairly answered.

For further information consult the President, Secretary or Hon. Hiram Richardson, Vice-President, Waterloo, Ala.

Why not subscribe for the MANUFACTURERS'

RECORD? Price \$4 per year or six months for \$2.

FOR SALE.**Soap,
Candle & Oil
Works,
Plant and
Business.****Established 1848.**

**Warehouse, Houses
and Outfit Complete,
all in good repair.**

**A Fine Opportunity
to secure a splendid
paying and well es-
tablished business in
one of the best located
cities in the South.**

**Address, for full par-
ticulars,**

F. FABELS' SONS,

P. O. BOX 104,

LOUISVILLE, KY.**FOR SALE.**

A FINE

Marble and Talc Property.

Pink, Blue, Green and Black Marble on property; also fine corundum property in North Georgia. For particulars address

F. R. HEWITT,

Hewitt's, Swain Co., N. C.

To Manufacturers

Desiring a Staple Article on Royalty or Shop Right. For particulars of the "Landis Patent Steam and Hot Water Radiator" address **EZRA F. LANDIS,**

LANCASTER, PA.

Anniston

THE CENTER OF
Iron and Cotton Industry
AND MINERAL WEALTH.

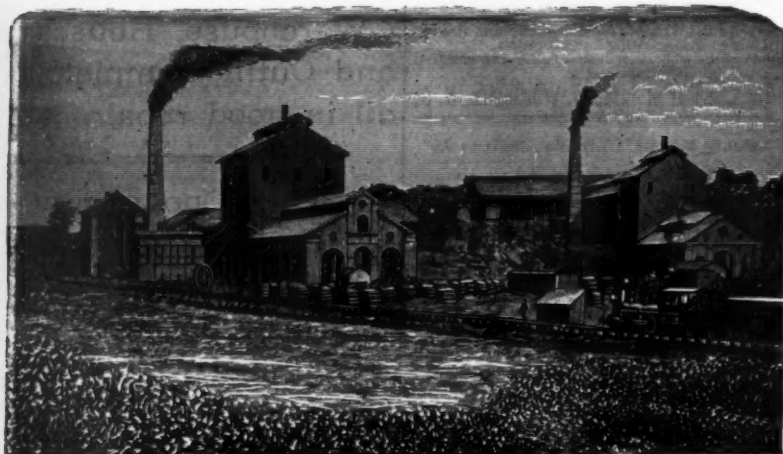
"The Model City of the South."

IT IS

The Profits of Labor only that can add to the wealth and prosperity of a nation or community. It is this only that can make business successful and profitable, sustain and add to the value of real estate.

WHERE

Nature's resources are greatest, where nature's capital in rich agricultural lands, and where iron, coal and other useful minerals are most abundant, most accessible and of superior quality for all purposes, there will capital find its safest investment, largest returns and labor reap its richest reward. It is to the Anniston District where the best professional mining engineers and experts of the United States declare the great center of the Iron Industry of the South will drift, where its manufacture will be most permanent and profitable, and where ores in the greatest abundance and accessibility exist, and where they will be most easily mined, that this applies.



WOODSTOCK FURNACES—ANNISTON.

The Development of the Past Fifteen Years

Confirms all this, and every year convinces the experts of the correctness of their judgment. It is no longer opinion based on scientific and practical education; it is a fact that is clearly and successfully demonstrated, so that the visitor to the Anniston District can see at every step. The four iron furnaces that have been so long and successfully operated, and the new plant now being erected, and rapidly approaching completion, which will be capable of producing one hundred thousand tons of pig iron a year, demonstrate that

NOWHERE ELSE IN THE SOUTH

Has the iron industry been so profitable and so successful, or been established on so permanent a basis, and of no district is it so universally conceded by all, while nowhere else have arrangements been perfected and already established on so complete a scale to work the crude iron into higher branches of manufacture to increase its value, and to bring into the district the profits of skilled labor. **THE GREAT CAR WHEEL WORKS OF NOBLE BROS. & CO.**, their rolling mill and steam forge and machine shops, and the Alabama Car Works, have been absorbed by the

UNITED STATES ROLLING STOCK COMPANY,

With a capital of \$4,000,000, for the purpose of adding to and enlarging the entire plant to build **TWENTY CARS A DAY**. Everything that goes into the creation of a car, except the tin for the roof and the wire nails, will be created from Anniston's crude material by her labor and skill. Fifty tons of wheel iron will be made into car wheels daily, twenty tons into car axles, fifty tons of pig iron into car and other castings, and fifty tons into bar iron and bolts, making nearly ten thousand dollars per day added to the wealth of the country by profitable labor converting nature's capital to the use of man. This company have a capital of \$4,000,000, and their Anniston works will represent a cash outlay of \$1,000,000. One thousand skilled mechanics will be employed as soon as the great enlargements under way can be completed.

THE STEEL BLOOMARY

Consumes and increases the value of twenty tons of pig iron per day, while the Pipe Foundry converts to the use of man **TWO HUNDRED TONS OF PIG IRON PER DAY** in one of the largest and best planned and most convenient labor-saving works on this continent. *The Foundry of Murray & Stevenson, Engine and Machine Works of Pinder & Co., and Boiler and Sheet Iron Works of J. & D. Noble*, all add to the consumption of crude material by the creation of finished work.

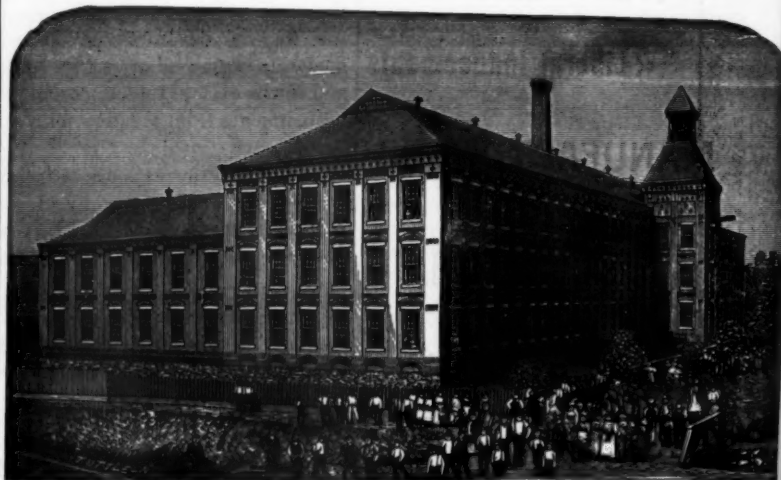
NOR IS IT TO IRON ALONE

That Anniston relies for increase of wealth and population. The Cotton Factory, with eleven thousand seven hundred spindles and three hundred and seventy-five looms, employing over three hundred and fifty operatives, adds greater value to the products of agriculture by converting six thousand bales of cotton into cotton cloth. The immense ninety-inch Morse Cotton Compress, with its brick warehouses, is fast making Anniston a cotton market and commercial center, and aiding its wholesale and retail merchants to extend and hold the trade of the country tributary to Anniston that its system of railroads has opened to them. The Georgia Pacific, the East Tennessee, Virginia & Georgia Railroad systems,

Give Direct Communication and Through Rates

To all parts of the country, while the Anniston & Atlantic Railroad, built by Anniston capital to open up new agricultural and mineral resources, gives Anniston, by connection with the Central of Georgia system, communication with the Atlantic sea coast and the new Anniston & Cincinnati Railroad, built and owned by Anniston citizens, opens up new resources and connections, and a shorter line with the great Northwest.

The proposed extension of the Anniston & Atlantic Railroad to Blocton will give another and shorter line to the great Cahaba Mines, producing the very best coal for domestic and manufacturing purposes in the South. Forty thousand acres of these coal lands, upon which a million and a half dollars have been lately spent in opening new mines and building several hundred coke ovens, **ALL OWNED AND CONTROLLED BY ANNISTON CAPITAL**, and developed to mine and manufacture three thousand tons of coal and coke per day, secures to Anniston for generations to come a full and certain supply of cheap fuel for all her industries, operated where a rich agricultural country can feed a manufacturing and commercial people, and where the



ALABAMA MANUFACTURING COMPANY'S COTTON MILL—ANNISTON.

Best, Healthiest and Most Invigorating Climate in the World,

With mountain air and pure water, and an elevation of nine hundred feet above tide water, insures the health and comfort of the workman and his family; where health and comfort stimulate and lighten labor, and secure to it and its industries the reward due to both. It is these advantages which have been given by nature that enabled Anniston's citizens to create her past and present prosperity, and which secure her future. It is that they may participate in and avail themselves of these advantages that Anniston invites **NEW CAPITAL AND TALENT AND ENERGY** from all sections. We invite all to come and see, and on the spot to judge for themselves of Anniston's great resources and possibilities. The comfort and quiet of the famous Anniston Inn will make a visit to our city a treat and pleasure. Any information, attention and courtesy will be given and shown by addressing or applying to the

ANNISTON CITY LAND CO., Anniston, Ala.

SHEFFIELD, ALA.

The Iron Manufacturing Center of the South.

At the head of navigation, on the Tennessee River, Sheffield is the natural outlet for the mineral and manufacturing products of Alabama and the neighboring States seeking a water route to points on the Ohio and Mississippi Rivers, and to the Gulf of Mexico, as well as the best distributing point over Alabama, Eastern Mississippi and East Tennessee, South Carolina, Georgia and Florida for Northern and Western produce, groceries, provisions, machinery, &c. Three Railroads already completed and in operation, and several others assured. **Principal shops of the Memphis & Charleston Railroad**, in which cars and locomotives are to be built, are under contract to be erected here. These will employ between four hundred and five hundred mechanics, and consequently, with their families, will make an increase in population of at least two thousand people. Shops of three other railroads are contracted to be located here, some of them being now under construction.

Five Completed Blast Furnaces,

HAVE A CAPACITY OF 700 TONS PIG IRON PER DAY.

Experts do not hesitate to say that iron can be manufactured more cheaply at Sheffield than at Birmingham, and its river transportation facilities will enable Sheffield iron to reach the principal markets at a saving of from

\$2.00 TO \$2.50 PER TON.

The quality of the iron produced is pronounced by consumers to be the best from any furnaces in the South.

The following are among the Corporate and Private Enterprises belonging to Sheffield:

- | | | |
|--|---|--|
| 1 The Sheffield Land, Iron & Coal Company, capital \$1,000,000. | 14 The Sheffield Mineral Paint Company, \$50,000. | 35 Knowles Knitting Mill, \$30,000. |
| 2 The Sheffield & Birmingham Coal, Iron & Railroad Company, capital \$7,500,000, owners and operators of three blast furnaces, the Sheffield, the Sheffield & Birmingham Railroad, coke ovens and coal mines near Sheffield. | 15 The Sheffield Agricultural Works, \$40,000. | 36 Sheffield Tapestry Works, \$40,000. |
| 3 The Sheffield Furnace Company, capital \$150,000; assets \$500,000. | 16 The Sandstone Quarry Company. | 37 Robbins Machine Shop and Foundry, \$50,000. |
| 4 The Lady Ensley Furnace Company, capital \$200,000. | 17 The Sheffield Cotton Compress Company, \$60,000. | 38 Sheffield Cotton Mill, No. 1, \$50,000. |
| 5 Enterprise Publishing Company, capital \$25,000; publishes daily paper with associated press report and weekly paper. | 18 Millar Brothers, Steam Laundry. | 39 Owen Pink Mixture Company, \$100,000. |
| 6 The Electric Light and Gas Fuel Works, \$25,000. | 19 Water Works, already expended \$30,000. | 40 Bell Telephone & Telegraph Company. |
| 7 The Sheffield Ice Company, capital \$25,000. | 20 Sheffield Street Railway Company, \$50,000. | 41 Fould's Shoe Factory, \$20,000. |
| 8 The Sheffield Manufacturing Company, \$30,000. | 21 Sheffield & Tusculum Street Railway Co., \$50,000. | 42 Enterprise Wood-working Company, \$30,000. |
| 9 The Sheffield Contracting Company, \$60,000. | 22 First National Bank, \$100,000. | 43 The Sheffield Harness & Saddlery Company, \$20,000. |
| 10 The Eureka Brick & Lumber Company, \$30,000. | 23 Cleveland Hotel Company, \$50,000. | 44 Principal Shops of the Sheffield & Birmingham R. R. |
| 11 The Sheffield Furniture Manufactory. | 24 Sheffield Hotel Company, \$120,000. | |
| 12 The Howard & Busch Brick Company. | 25 East Sheffield Land Company, \$500,000. | |
| 13 The Sheffield Bakery and Bottling Works. | 26 Hull & Keller's Fern Quarries. | |
| | 27 Vorhees' Galvanized Iron Cornice Factory. | |
| | 28 The Sheffield Quarries. | |
| | 29 Mobile Real Estate Company, \$50,000. | |
| | 30 Sheffield Real Estate Company, \$125,000. | |
| | 31 Sheffield & Mobile Improvement Company, \$100,000. | |
| | 32 Sheffield Stove Works, \$50,000. | |
| | 33 Henderson Milling Company, \$100,000. | |
| | 34 Globe Iron & Brass Works, \$10,000. | |

Aside from the foregoing, the following are in course of construction and may be considered positive: Principal Shops of the Nashville, Florence & Sheffield Division of the Louisville & Nashville Railroad.

Reasonably certain to be secured in the near future are the following, in regard to which negotiations are pending: A Rolling Mill, a Large Machine Shop, a Cotton Mill, a Large Steel Plant.

GOOD WATER.

Free Public Schools and Churches

Drainage Excellent. Health and Climate Unsurpassed.

Splendid Opening for Men of Push and Energy.

No Better Point for Profitable Investment.

— NO "OLD FOGY" ELEMENT HERE. —

Sites for Manufacturing Enterprises,

AND FOR FREE PUBLIC SCHOOLS AND CHURCHES.

Donated by Sheffield Land, Iron & Coal Company.

WM. L. CHAMBERS, Vice-President and Manager,

SHEFFIELD LAND, IRON & COAL COMPANY, - - - SHEFFIELD, ALA.

Population January 1st, 1887, 700; August 21st, 1887, by actual count, 2,583. Increase of population, 300 per cent. in eight months, and only limited by accommodations. Present estimate (August, 1888) fully 3,500. Four years ago the site of Sheffield was cultivated as corn and cotton plantations, and was without a railroad. Numerous two and three story brick business houses, and one and two-story dwellings have been, and are being erected. The class of buildings will compare favorably with those in cities of 20,000 inhabitants. Limestone of excellent quality for fluxing iron in unlimited quantities at the furnaces' sites. First-class building stone and brick clay abundant. Rich and extensive deposits of Brown Hematite iron ore within twenty miles, along the lines of two Sheffield railroads, which, by actual results in the furnaces, yield above 50 per cent. metal. Iron of high grade is being made with a pound of coke to a pound of metal—a result never before accomplished with Southern ores and coke. The Sheffield & Birmingham Railroad runs through the heart of the Warrior Coal Fields, which abound in first-class Coking, Steam, Gas and Grate Coal. Timber is abundant and cheap. The Memphis & Charleston Railroad, Sheffield & Birmingham Railroad, and Nashville, Florence and Sheffield branch of the Louisville and Nashville Railroad are now in operation into Sheffield. Surveys of three other railroads have been recently completed to Sheffield, which will soon be the best combined river and railroad transportation center in the South. Every merchant and every established manufacturing enterprise is doing a profitable business. More are needed. For further information address

NEW DECATUR,

ALABAMA.

The New Industrial City of the Great Tennessee Valley.

DESCRIPTION OF ENTERPRISES ALREADY ESTABLISHED:

1. The United States Rolling Stock Company's Plant.

For full description see back numbers of the "Record"—June 1, 8, 15, 22, 29.

2. The Louisville & Nashville Railroad Company's Shops.

For full description see back numbers of the "Record"—July 6, 13, 20, 27; August 3, 10.

3. The Southern Horse Nail Company.

R. H. BALLINGER, President.....New Decatur, Ala.
W. W. LITTLEJOHN, (Cashier 1st Nat'l Bank) Treasurer.....Decatur, Ala.
R. A. BALLINGER, Acting Secretary.....New Decatur, Ala.

J. A. BREWER, Agent.....Great Barrington, Mass.
EDWARD BAILEY, Agent.....903 Chestnut St., St. Louis, Mo.
JONAS TAYLOR, Agent.....Nashville, Tenn.

This company manufactures horse-shoe nails by a new and improved process, and of a greatly superior quality. Their plant has been in operation only a few months, yet has already turned out and sold 1,500 boxes of nails. It has 10 forges, of a combined capacity of about one ton per day. The buildings are situated on the Manufacturers' Switch-track, and are of brick and stone, of the most substantial and permanent character. The dimensions of the main building, which has a metal and truss roof, are 44x182 feet, and of the engine house 30x30. The company has already established a market for its product in New York and Massachusetts, south of the Ohio and west of the Mississippi, and after careful tests by experi-

enced smiths the nails have met everywhere with unqualified approval. The material used is the best Norway and Swedish product, the best soft steel in the world, imported for the purpose. The nails are hot forged, and it is claimed for them, and has been proved by ample tests: 1. That they are the best driving-nail made. 2. They will not split, bend or sliver, which is a frequent cause of lameness. 3. They are perfect in finish and shape, having well formed heads, fitting the shoe perfectly, and never growing loose by wear. 4. They are perfect in toughness and ductility, being hammered in forging similarly to the old fashioned hand-made nails.

4. The Decatur Iron Bridge & Construction Company.

This company was organized during the year 1887, and erected their plant during the summer and fall of that year, on an admirably-located tract of land covering about fourteen acres, fronting the Tennessee river. The buildings are connected by switch tracks with the Louisville & Nashville and the Memphis & Charleston Railroads, thus affording ample facilities for transportation by rail to and from all points North, South, East and West, and by water to and from all points on the Tennessee, Ohio and Mississippi Rivers. The machinery and all appliances are of the latest design, new and in perfect order, and ready for operation. The plant was operated successfully for several months, but the company was compelled to

suspend operations, simply and exclusively for want of capital, at a time when they had very large orders on hand, and were assured of permanent success. This plant, as described below, is now for sale, and can be purchased at a bargain. Manufacturers possessing sufficient capital and the necessary practical experience, can find no better or more profitable investment anywhere in the New South than this splendid plant, situated as it is in one of the very best locations in the country for that purpose. For further information apply to the First National Bank, Decatur, Ala., or to the Exchange Bank, New Decatur, Ala.

DESCRIPTION OF THE PROPERTY.

The property consists of about fourteen acres of land, a main building (of corrugated iron) 90x300 feet, and two "Ls" 60x75 feet each, in which is all the necessary machinery, new and in good order, for carrying on the business of bridge building and iron construction.

The real estate, independent of the improvements, has been valued by competent persons under oath at \$44,600, and the buildings, machinery and other improvements cost, according to the company's books, \$63,300, making in all a value of \$107,900.

In addition to the main building mentioned there is a brick pump house on the river bank, a stable and carriage shed, and a two-story frame office building 30 feet square, finely furnished, heated by steam, and provided with all necessary furniture and fixtures.

A side track from the Memphis & Charleston Railroad is laid alongside of the shops, convenient for loading and unloading material, and the tracks of the Louisville & Nashville Railroad also cross the property of the company. The cost of improvements is made up as follows, viz:

| | |
|---|-------------|
| Buildings, grading and fencing..... | \$24,446 87 |
| Furniture and fixtures..... | 595 42 |
| Machines, engines, boilers and pumps..... | 18,115 52 |
| Hand tools and iron templates..... | 3,660 88 |
| Shafting, pulleys and belts..... | 6,616 25 |
| Crane and travelers..... | 2,593 35 |
| Furnaces and forges..... | 647 23 |
| Pipes (air, steam and water)..... | 635 55 |
| Hammer dies..... | 351 04 |
| Tracks, cars and turn-tables..... | 1,886 90 |
| Platforms and skids..... | 263 95 |
| Scales..... | 275 33 |
| Electric-light plant..... | 1,034 23 |
| Anvils, formers and swedge blocks..... | 248 43 |
| Miscellaneous..... | 1,998 56 |
| Total cost..... | \$63,300 31 |

THE FOLLOWING IS A LIST OF THE PRINCIPAL TOOLS SET UP IN PLACE, VIZ:

One 60 Horse Power Engine, with boiler.
One Blakeslee Bolt and Rivet Header and Upsetting Machine.
One 36 in. x 36 in. x 9 ft. New Haven Planer.
One Mills & Jones 6 in. Double Angle Shears.
One 1,100 lb. Single Stand Morgan Steam Hammer.
One No. 3 Mills & Jones Single Punch, complete.
Two 30 in. x 8 ft. bed Rotary Planers, Leighton & Burch.
One Single No. 3 Long & Alstatter Punch, 13 in. d.
One Single No. 5 Long & Alstatter Punch, 6 in. d.
One Kellogg & Maurice Steam Riveter.
One Allen Air Riveter, with Steam Compressor and Air Receiver complete.

Two 36 in. Back Geared Feed Prentiss Drills.
One Wheel Feed Prentiss Drill Press, 16 in.
One Reid Engine Lathe, 16 in. x 8 ft. No. 77.
One Reid Engine Lathe, 16 in. x 6 ft. No. 95.
One 15 in. Handy Shaper Tilt Table.
One Set Bending Rolls, 12 ft. clear.
One 3½ Single, class A, Acme Bolt Cutter.
One No. 10 Bolt Cutter, complete. (Wells Bros. & Co.)
Two 8,000 pound Harrington Hoists.
One 6,000 pound Harrington Hoist.
One Westinghouse Electric Light Plant, 100 lights.

One Bullard Punch Grinding Lathe.
Two Emery Grinders.
One Wood Boring Machine.
One Circular Saw.
One No. 4 Sturtevant Moss. Blower.
One Dellamaster Steam Pump.

In addition to the larger tools above mentioned, there is a large assortment of small tools, consisting of Drills, Wrenches, Hammers, Sledges, Tongs, Shovels, Pinchers, Dies and Taps, Calipers, Files, Cutters, Heading Tools, Lathe Tools, Chucks, Vices, Planer and Shaper Tools, Screw Jacks, Anvils, Formers, Augers, Bits, Reamers, etc., etc.

For Maps, Pamphlets and other Information about New Decatur, address

The Decatur Land, Improvement & Furnace Company, New Decatur, Alabama.

DENISON, TEXAS.

The "Yankee" City of the Southwest,

— AND —

* GATEWAY *

— TO THE —

GREAT STATE OF TEXAS.

The City of Dennison presents the Finest Opportunity of any City in the Southwest for the Investment of Capital in Large or Small Sums.

DENISON is situated in Northeastern Texas near inexhaustible beds of coal and iron, surrounded by the finest fruit lands in the world, and adjoining the INDIAN TERRITORY, which, in the nature of things, must in a few years be opened to settlement.

The growth of Dennison has been a natural one, the city having reached its present size—16,800 population—in sixteen years.

The city is regularly and beautifully laid out. Railroads run from it in four different directions. The Missouri, Kansas & Texas alone does an enormous business, having 54 miles of switch track in Denison, employing 500 skilled workmen and disbursing \$150,000 a month in wages.

The first public school in the State was established here, and the city's elegant two and three story brick school buildings, surrounded by attractive grounds, are well arranged for the use of the white and colored children. Its schools are in session ten months in each year.

We have sixteen church societies, seven of which are colored.

The city is well supplied with pure water from its numerous private wells—dug in the ground—and its first-class system of water works, giving the citizens ample protection against serious loss by fire, and enabling the insurance companies to rate the city first class as to fire hazard. Rate of taxation low.

The city has four miles of street railway, with six miles now building to be operated by steam motor; has two electric-light companies and a telephone plant. It has an influential New England colony, and counts among its citizens people from every State in the Union.

A large hotel, to cost \$125,000, is to be erected here this year, and a large steel plant with \$2,000,000 of capital is contemplated.

30,000 bales of cotton were shipped from Denison in 1888. 200,000 baskets of strawberries and several carloads of peaches and other fruits have been shipped to market this season.

The Denison Canning Co., capitalized at \$100,000, has just been organized, and ground has been broken for a large fruit and vegetable canning factory.

A cotton mill company is being formed with a capital of \$500,000. Denison citizens have subscribed \$150,000 to this enterprise; Eastern capitalists will add \$350,000.

The climate of Denison is magnificent, situated nearly 800 feet above sea level. In summer it is warm, but far cooler than many cities farther North, and from 6 P. M. until after sunrise it is always cool. The city is very healthy.

The capacity of the ice factory is being increased from a daily output of 15 tons to 30.

The Denison Land & Investment Co. is prepared to give every reasonable encouragement to manufacturers, and solicit correspondence from such manufacturers as contemplate coming into the Southwest to locate.

Address all communications to

THE DENISON LAND & INVESTMENT COMPANY, DENISON, TEXAS.

Paid-Up Capital, - - - - - \$1,200,000.

OFFICERS:

W. P. RICE, President.

MILTON H. FRENCH, Vice-President and General Manager.

ARTHUR L. BERRY, Secretary and Treasurer.

DIRECTORS:

W. P. RICE, Kansas City, Mo.
J. M. FORD, Kansas City, Mo.
A. R. COLLINS, Denison, Tex.

B. J. DERBY, Burlington, Vermont.
PAUL LANG, Oxford, N. H.
M. V. B. CHASE, Augusta, Maine.

MILTON H. FRENCH, Thomaston, Maine.
A. H. COFFIN, Denison, Texas.
JOS. B. LINCOLN, Boston, Mass.

Morristown, Tenn.

The Plateau City of the Great Valley of East Tennessee

is beautifully located on a plateau of Bay's Mountain, about equi-distant from the Cumberland Mountains which bound East Tennessee on the northwest, and the Alleghany Mountains which bound it on the southeast, and is 300 feet above Holston River, which washes the north base of the plateau three miles from the city. Its mean elevation above sea level is about 1,350 feet, while the hills and mountains immediately surrounding it rise to an altitude of 1,935 feet, affording views of surprising extent and grandeur, and at the same time so modifying the temperature that the thermometer rarely registers higher than 90° in summer or lower than 10° in winter. Its drainage is admirable, and malaria is unknown. It has nearly trebled its population since 1880, having now about 4,000 inhabitants. It is the commercial and business center of the richest and most extensive agricultural district in the State, where all the cereals and all the grasses

and tobacco are grown to perfection, and where fruits and berries abound. It has hundreds of thousands of acres of uncultured forests accessible to it, abounding in Poplar, Pine, Hemlock, six varieties of Oak, Chestnut, Hickory, Cedar, Maple, Birch, Beech, Sycamore, Gum, Locust, Laurel, Buckeye, Mulberry, Ash, Cherry and Walnut. The Celebrated East Tennessee Marble underlies a part of the city, and it is surrounded with rich deposits of Iron Ore, Manganese Ore, Zinc Ore and Lead Ore. It has been said by one who has made a study of the subject, that within a radius of 50 miles around Morristown every variety of iron ore in the United States can be duplicated, and a coke can be made equal to Connellsville coke. We claim without hesitation that Morristown has in its immediate vicinity richer mineral ores, and a greater variety of them, than any city on the Continent.



MORRISTOWN

has Railroad Facilities equal to any city between Lynchburg and Chattanooga, and they will be speedily increased by the completion of the Carolina, Cumberland Gap & Chicago Railway, making the shortest possible railway route between the great cities on the Ohio River, Cincinnati and Louisville, and the seaboard cities, Charleston, Port Royal and Savannah. Besides, the Baltimore & Ohio Railway will probably extend a branch to it from Lexington, Va., and the Tennessee Midland will in all probability be built to Morristown, and a line be built giving direct connection with Atlanta.



MAP SHOWING RELATION OF MORRISTOWN TO THE COUNTRY AT LARGE.



MORRISTOWN

has a citizenship composed almost exclusively of native born Americans. It boasts a splendid system of Graded Schools, Five Commodious Brick Churches, the finest Courthouse in Upper East Tennessee, an Opera House that will seat 600 people, two Solid Well Managed Banks, a flourishing Building and Loan Association, two of the Largest Commercial Flouring Mills in the South, Stove Works, an Agricultural Implement Factory, a Tobacco Factory, a Carriage and Wagon Factory, and many industries of lesser note.



It is lighted with electricity, and has water works under contract, and is now inaugurating a system of street railways. Its climatic advantages, its unsurpassed record for healthfulness, its abundance of pure water, its central and beautiful location, its transportation facilities, its fruitful agricultural surroundings, its contiguity to rich and exhaustless fields of iron, manganese, zinc and lead ores, marble, coal and timber, mark it as a place destined to be the commercial, manufacturing and railway emporium of Upper East Tennessee, Western North Carolina and Southeastern Kentucky.

To expedite this destiny the city authorities have wisely exempted from taxation for ten years all manufacturing establishments that will give employment to fifteen or more persons, and the county authorities have done the like, so that manufacturing establishments will be exempt from all taxation for ten years, except the merely nominal tax for State purposes. There has been no "boom" or inflation of prices at Morristown, and, as it possesses within itself and contiguous to it almost every element of wealth, it now presents the most inviting field for investment of any city in the South.

Persons who may desire fuller information can obtain it by calling on or addressing

MONTVUE LAND COMPANY

POSTOFFICE BUILDING, — MORRISTOWN, TENNESSEE.

FORT PAYNE, Alabama.

★ COME TO ★

The NEW ENGLAND CITY of the South.

Climate Unsurpassed. Abundance of Pure Water. Drainage Excellent.

No Better Point in the Union
For Safe and Profitable Investment.

Situated on the MAIN LINE of the QUEEN & CRESCENT ROUTE, fifty-one miles Southwest of Chattanooga, and ninety-one miles North of Birmingham.

Elevation is from 895 to 1,600 ft above the sea, and above fever districts.

DeKalb County is entirely free from debt; taxes light. Most liberal encouragement given to industries of every kind.

Iron Furnace and Rolling Mill will be constructed immediately, and other industries of various kinds are under contract.

Correspondence solicited from those who contemplate coming into the South to establish any kind of manufactories.

The different industries will employ at least two thousand skilled workmen, which will secure a population of over ten

thousand, independent of the many industries contemplated.

Iron of the best quality can be manufactured at as low cost per ton as in any other locality in the South.

Coal and iron are being developed rapidly of a superior quality.

Fine timber abundant and wood-working machinery of every kind can be profitably employed at this point.

The Company is prepared to give every reasonable encouragement to manufacturers who will locate at this point.

Correspondence solicited.

CAPITAL \$5,000,000.

OFFICERS.

| | |
|--------------------------|----------------------|
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FORT PAYNE COAL & IRON COMPANY, Fort Payne, Ala.

SOME ABOUT FLORENCE, ALA. FACTS

Florence is in North Alabama, near the Tennessee line, on the Tennessee river, which is navigable here for large steamers. It is on the Memphis & Charleston Railroad, and the Nashville & Florence branch of the Louisville & Nashville Road.

* * * * *

There are many other places in the South possessing the advantages of a good climate, healthfulness, natural resources and manufacturing capabilities more happily combined and in a higher degree than can be found in any other part of the country. It is believed, however, that at no point in the South, and hence nowhere in America can there be found an aggregate of so many unsurpassed advantages and attractions as exist at Florence.

* * * * *

Florence can make iron as cheaply as any place in Alabama. It has facilities for the manufacture also of cotton goods equal to those of any other place. Anything that uses wood as a raw material can be made here at as low a cost as anywhere in the South.

Thousands of acres of iron ore of a high grade within a few miles of Florence are owned by Florence companies. Limestone is quarried within the town limits. There is enough of it to last for ages.

Cotton mills would get a large part of their supply from the country around Florence. Cypress creek furnishes water power and mill sites enough to make Florence the Lowell of the South.

North of Florence, and up the Tennessee river, there are large areas of timber, embracing a wide variety of hardwoods—forests that the ax has never touched.

* * * * *

Besides its industrial possibilities, Florence is a point of great commercial importance, and could be made the center of an enormous mercantile business. It has the advantage of both rail and river transportation and of competing railroads. Certain railroad movements are in progress now that will give it direct communication in every direction and by different lines.

Florence is surrounded by a wide extent of fertile and productive country, as well adapted for farming, stock raising, fruit growing, truck farming, dairying, &c., as any in the world. Further, it has a climate that is delightful the year round. Its health record cannot be surpassed. It has no malaria. In fact, people who live here enjoy a remarkable exemption from ailments of every sort. It has an abundance of the purest water.

* * * * *

For beauty of location Florence is without a peer. The Tennessee river at this point is as romantic and beautiful as the Hudson. The rolling character of the country, the slopes and hills and alternating valleys furnish a picture to charm an artist's eye. The lovely Cypress creek, a deep and rapid stream emptying into the river just below the town, presents at every turn in its tortuous course a scene of entrancing beauty. The views from some of the higher hills are as fair as the eyes of man ever rested on.

* * * * *

Florence is making more rapid progress, proportionately, than any other town in America. This is a strong statement but it is true. And its growth is on a solid and permanent basis.

* * * * *

Florence is not undergoing any wild real estate boom. Its managers are not seeking to advance real estate prices. It is not their plan to get a quick return for the money they have invested, by the rapid sale of lots at unnatural prices. It is their aim to first build up a town, to locate factories and secure a permanent population, when land will have an actual value and sell at prices from which there will not be a subsequent disastrous reaction. At present real estate is much lower in price than in any other town in the South that has made half the progress Florence has made.

* * * * *

Since the first of September, 1888, over 25 industries have been located at Florence, with an aggregate cash capital exceeding \$2,000,000. This remarkable growth is the result of efforts to induce people to simply investigate the attractions of Florence. Investigation and comparison with other places, on the part of any who are looking for a place in the South to locate, will in nearly every case result in the selection of Florence.

* * * * *

The following are some of the industries in Florence. Some of these are in operation; others are nearly ready for work and others have but recently commenced work on their buildings: A furnace about ready to go into blast, and another partly constructed; a stove factory; a hardware company, with a capital of \$300,000 to manufacture fine building hardware, &c.; a wagon factory, with capital of \$150,000; an agricultural implement works; a handle factory; a woodenware factory; a sash, door and blind factory; a cedar bucket factory; a pump factory; planing mills; a factory to make wooden butter plates such as grocers use; a flour mill; a cotton mill; a jeans factory; a gingham factory; a woolen mill; a cotton gin; a marble company; a roofing and paint company; a shoe factory; a suspender factory; a compress, packet and ferry company; three building and loan companies; a canning factory; several brick factories; a dummy railroad company, and several other enterprises.

* * * * *

The aggregate capital of the industrial, mercantile and development enterprises in Florence exceeds \$15,000,000.

A year ago the population of Florence was 2,000. It is now more than 8,000.

There are more than 1,100 carpenters at work in Florence and they can't build houses fast enough to keep up with the increase in population. Before the first of January next there will be 15,000 people living here.

* * * * *

Limited space allows here only the briefest summary of a very few of the more important facts about Florence. For more detailed information write to any of the following companies. Or better still, come down and see for yourself. Investigation is all that Florence asks or needs.

Railroad and Improvement Co.

Lauderdale Manufacturing Co.

Cotton and Iron Co.

Florence Investment Co.

CONSTRUCTION DEPARTMENT

WE PUBLISH, every week, a list of every new factory, of whatever kind, projected anywhere in the South; every railroad undertaken, and every mining company organized. This information is always fresh, and, by enabling manufacturers to correspond with the projectors of such enterprises before their supplies of machinery have been purchased, is of great value. Manufacturers will find it to their interest to read this department carefully each week.

*Means machinery is wanted, particulars of which will be found in "Machinery Wanted" columns.

**In correspondence relating to matters reported in this paper, it will be a favor if it is stated that the information was gained from the MANUFACTURERS' RECORD.

ALABAMA.

Anniston—Suspender Factory.—A suspender factory will be started.

Anniston—Bolt Factory.—Efforts are being made to have the Seaton Manufacturing Co., manufacturers of bolts, nuts, etc., at Cleveland, O., move their factory to Anniston.

Anniston—Car Works.—The United States Rolling Stock Co. will put new machinery in their foundry.

Bessemer—Sash and Furniture Factory. W. S. McCulley, previously reported as to establish wood-working factory, will start sash and door and furniture factory.*

Birmingham—Iron Furnace.—Cleveland, Ohio, capitalists will investigate the facilities offered for the erection of an iron furnace.

Centenary—Saw Mill and Gin.—K. Legett will start saw mill and gin.*

Childersburg—Furnace.—Birmingham parties have taken an option on the city and mineral property of the Childersburg Land Co., and if they purchase will, it is reported, erect an iron furnace and develop the property.

Ensley—Newspaper.—W. W. Watts and J. F. Anthony, of Pratt Mines, have incorporated the Pratt Mines & Ensley Publishing Co., capital stock \$4,000, to publish a newspaper and do job printing.

Fort Payne—Tannery.—John Maxwell, of Boston, Mass., reported last week as contemplating erecting a large tannery, has purchased 120 acres of land on which to build it and houses for his employees.

Gadsden—Iron Furnace.—The Gadsden (Ala.) Furnace Co. will shortly put their furnace in blast, previously reported as being repaired.

Guntersville—Brick-yard.—The Baker Brick & Building Co. have been organized with A. J. Baker, president, and R. N. Bell, secretary, for the manufacture of bricks. The capital stock is \$10,000.

Hayneville—Publishing.—Ben De Lemos will publish the Plain Dealer.

Luverne—Telegraph Line.—The Alabama Midland Railroad Co. are building a telegraph line to Luverne.

Martling—Gin.—B. D. Abney has built a gin.

New Hope—Saw Mill.—Hamer & McClure have purchased saw mill outfit, and Owens & Cowan will do same.

Montevallo—Coal Mines.—The Excelsior Mining Co. are opening coal mines near Montevallo.

Opelika—Knitting Factory.—C. J. Sudeth is erecting the factory building for the Opelika Knitting Co. previously reported. The knitting factory will employ 100 hands, it is said.

Ozark—Sash, Door and Blind Factory.—Henry and Edward Martin are building a sash, door and blind factory.

Rock Run—Iron Works.—The Stonewall Iron Works, reported last week as to be repaired and put in operation, have been sold by the Augusta National Bank, Augusta, Ga.

Russellville—Artesian Wells.—It is reported that two artesian wells will be sunk and another washer erected at the Ensley iron mines.

Selma—Publishing.—Bayol & Link have commenced the publication of the Daily Guide.

Selma—Railroad.—The East Tennessee, Virginia & Georgia Railroad Co. (office, Knoxville, Tenn.) are relaying their track from Selma to Meridian, Miss., 113 miles, with new steel rails.

Sheffield—Ginnery.—The Sheffield Ginnery Co. are erecting the large cotton ginnery previously reported. The capacity will be 50 bales daily.

Shelby—Railroad.—Books of subscription have been opened to the capital stock of the Shelby Western Railroad Co., previously reported as to build a railroad to Calera, 11 miles.

ARKANSAS.

Arkansas—Lumber Mill.—The Pennsylvania Lumber Co. will move their plant from Missouri to Arkansas, it is reported.

Arkansas—Mining.—New machinery will probably be put in the Howland mine.

Austin—Saw Mill.—Young & Benson are erecting a saw mill.

Bentonville—Lead Mine.—E. A. Taylor has discovered a lead mine, it is reported.

Bentonville—Evaporator.—A fruit evaporator has been erected.

Brinkley—Railroad.—Harlow M. Hoyt, president of the Louisiana, Missouri & Arkansas Railroad (office, 160 Broadway, New York), is reported as having organized a syndicate to purchase the Brinkley, Helena & Indian Bay Railroad, previously mentioned as to be built to Indian Bay, and extend the road further.

Brinkley—Railroad.—It is rumored that the Louisiana, Arkansas & Missouri Railroad Co. will build a branch road to Greenville via Lake Village.

Clarksville—Steam Laundry.—If the steam laundry previously reported is started, it will be by Joseph Evans.

Columbia County—Ginnery.—C. S. Johnson is enlarging his cotton ginnery.

Columbia County—Grist Mill and Gin. S. O. Couch is erecting a grist mill and cotton ginnery at Logan's Chapel.

Emmet—Mine.—John Thompson, of Lewisville, has purchased the mine of McFarland & Moore.

Fort Smith—Brick-yard.—J. H. Reed will start a brick-yard.

Fort Smith—Water Works.—Efforts are being made for the city to have water works of its own.

Fort Smith—Brewery.—Kansas City, Mo., parties contemplate establishing a brewery.

Fort Smith—Brick-yard.—Bocquin & Bentzel, previously reported as to put new machinery in their brick-yard, are getting in their new plant.

Fort Smith—Furnace.—Efforts are being made to secure the building of a 50-ton furnace.

Hartman—Grist Mill and Gin.—W. L. and J. J. Cravens are erecting a grist mill and cotton gin.

Helena—Machine Shops.—The Arkansas Midland Railroad Co. are enlarging and improving their machine shops.

Hope—Electric-light Plant.—The city has contracted for the electric-light plant previously reported. The mayor can give particulars.

Hot Springs—Saw Mill.—J. H. Whitely will operate a saw mill.

Hot Springs.—The property and machinery of the May Mining Co. has been sold.

Jasper—Lead and Zinc Mine.—Messrs. Rush, Hale, Allen and others have organized a company to develop a lead and zinc mine on Honson creek.

Jersey—Shingle Mill.—J. B. Watson has started a shingle mill.

Judsonia—Bridge.—The St. Louis, Iron Mountain & Southern Railroad Co. (office, St. Louis, Mo.) are building a new bridge across the Little Red river.

Lanark—Saw Mill.—J. E. Childs & Co. have added a planing mill to their saw mill plant.

Lake City—Saw Mill.—Kimbrell & Bishop, of Buffalo Island, have purchased a saw mill.

Little Rock—Cooperage.—The Little Rock Cooperage Co. have put in an additional 10 horse-power engine.

Little Rock—Canning Factory.—A canning factory is talked of.

Little Rock—Dummy Line.—Northern capitalists are negotiating, it is stated, to purchase the City Dummy Line.

Little Rock—Grading.—Contract for grading and graveling Broadway district has been let to Henry Rudd at \$3,150. Contract for grading and graveling other streets will be let soon.

Little Rock—Oil Mill.—The Eureka Oil Co. have, it is reported, enlarged and improved their oil mill.

Little Rock—Soap Factory.—Efforts are being made to secure the establishment of a soap factory.

Little Rock—Water Works.—N. Peay & Co. will, it is stated, put steam heating and a system of water works in their hothouses.

Little Rock—Brick-yard.—C. C. Sullens will probably start a brick-yard.

Lockesburg—Mining.—New machinery will probably be placed in the Valley mines.

Magnolia—Telephone Line.—A telephone line is being built to Waldo.

Malvern—Wool Factory.—J. J. Tarvin will put carding machinery in his wool factory, it is stated.

Newport—Furniture Factory.—It is reported that A. Stively will start the furniture factory previously mentioned.

Newton—Zinc Mine.—A zinc mine has been discovered on the farm of B. F. Ruble, it is reported.

Osceola—Ginnery.—G. W. Dillahunt has purchased the cotton ginnery of B. & G. B. Driver for \$5,000.

Salem—Tile Works.—John F. Williams will start tile works and has ordered machinery.

Sulphur Springs—Railroad.—Engineers are locating the route of the Kansas City, Fort Smith & Southern Railroad.

Texarkana—Bridge.—The bridge previously mentioned as to be built across the Red river by the Texarkana & Fort Smith Railroad will cost \$120,000. The Missouri Bridge Co., of St. Louis, Mo., have the contract.

Texarkana—Car and Wagon Factory.—It is reported that machinery has been purchased for the car and wagon factory previously reported as to be started by Mr. Deake if given a bonus of \$10,000.

Traskwood—Tram-road.—S. V. Hafer is building a tram-road, standard gauge, 3 miles long.

Trippe—Railroad.—The Missouri Pacific Railroad Co. (office, St. Louis, Mo.) are building a railroad to Vidalia, La., it is reported.

Van Buren—Lumber Mill.—The Long-Bell Lumber Co., of Columbus, Kansas, have purchased the plant of the Barnes Lumber Co. and are enlarging same. They will employ 75 men.

Washington—Railroad.—The extension of the Arkansas & Louisiana Railroad west to a point on the Missouri, Kansas & Texas Railroad is rumored.

FLORIDA.

Branford—Publishing.—John D. Carroll will publish the Florida Hawkeye.

De Land—Sewerage.—Bids for sewerage system to cost not over \$15,000 will soon be invited. Silas B. Wright, city clerk, can give particulars.

De Land—Water Works.—Plans and specifications for water works not to cost over \$30,000 are being made, and bids for construction will soon be invited. Silas B. Wright, city clerk, can give particulars.

De Leon Springs—Fertilizer and Cement Works.—It is reported that the De Leon Springs Co. will establish the fertilizer works previously mentioned and also cement works.

Fernandina—Canal.—The Fernandina, Jacksonville & St. Augustine Ship Canal & Transportation Co. has been organized by M. B. Bartholomew, J. E. T. Bowden and others to construct a ship canal.

Florida—Canals.—It is proposed to organize a company to open up the Oklawaha river to navigation and cutting canals to the river.

Jacksonville—Wharf.—The Merrill-Stevens Engineering Co. are building a wharf 200 feet in length.

Key West—Cigar Factory.—William Lewis & Co., of San Francisco, Cal., contemplate establishing a branch cigar factory in Key West.

Lake City—Brick-yard.—E. A. Adams is organizing a company to start the brick-yard previously reported.

Lake City—Knitting Factory.—The Florida Manufacturing Co. have completed their knitting factory previously reported, and have commenced operation.

Monticello—Artesian Well.—The city will probably vote on the issuance of bonds to sink the artesian well previously reported.

Ocala—Cigar Factory.—The La Criolla Cigar Manufacturing Co. has been organized with N. Nathans, president, and F. D. Mason, secretary, for the manufacture of cigars.

Pensacola—Cigar Factory.—Hipalito Gonzalez, of Mobile, Ala., contemplates starting a cigar factory in Pensacola.

Sanford.—An electric fire-alarm system will be adopted, it is reported. The mayor can give information.

Tallahassee—Sash and Door Factory.—C. S. Barry, 95 W. Bloom street, Mansfield, Ohio, is negotiating with a view to starting a sash and door factory.

GEORGIA.

Acworth—Machine Shop.—C. E. Baker and Warren Rutherford, of Rock Run, Ala., will erect a machine shop.

Atlanta—Electric Railway.—The Metropolitan Street Railway Co. are reported as investigating with a view to operating their road by electricity.

Atlanta—Gas Works.—A company is being organized to build gas works. S. P. Stover can give particulars.

Atlanta—Agricultural Implement Works. The Southern Agricultural Works will put in additional machinery.

Atlanta—Electric Railway.—The Daft Electric Light Co. will build an electric railway to the exposition grounds.

Bainbridge—Ice Factory.—An ice factory is talked of.

Brunswick—Street Railway.—The Brunswick Street Railway Co., previously reported as to probably extend their road, have applied for the privilege of extending their line about one mile.

Carroll County.—It is reported that a gold mine has been discovered near the Alabama line.

Cartersville—Oil Mill.—The Farmers' Alliance will probably erect a cotton-seed oil mill and fertilizer factory.

Cartersville—Mining.—The Central Co., previously reported as developing iron mine, have purchased additional property which they will develop, putting in washers, &c.

Cedartown.—The Cedartown Lumber Co. will erect two large tanks with a capacity of 30,000 gallons each to supply their works with water.

Coffee County—Timber Land.—E. L. Vickers & Co. have purchased from Eli Vickers 4,000 acres of pine lands for \$4,200. They will probably erect saw mills.

Columbus.—The Mineral Improvement Co. has been incorporated by G. G. Jordan, G. M. Williams, Thomas E. Blanchard and others to deal in real estate and develop mineral lands. The capital stock is \$10,000.

Columbus—Railroad.—G. G. Jordan, previously reported with others as incorporating the Alabama, Georgia & Florida Railroad, has, with Oscar S. Jordan and Thomas E. Blanchard, incorporated the Columbus Construction Co. to build and equip railroads, steamboats, etc. The capital stock is \$50,000.

Columbus—Aluminum Plant.—German capitalists are in correspondence with Col. H. Bussey relative to the establishment of an aluminum plant in Columbus.

Columbus—Cotton Factory.—J. R. Browne will enlarge his cotton factory, it is reported.

Columbus—Flour Mill.—Another flour mill will probably be built.

Cordele—Variety Works.—E. O. Thompson, of Thomasville, contemplates establishing variety works.

Cordele—Machine Shops.—W. C. Davis, of Thomasville, contemplates establishing machine shops.

Cordele.—Blecker & Hagerman, previously reported as negotiating to establish works, will build large planing mill and variety works; now erecting buildings.

Dahlonega—Iron Mines.—A St. Louis syndicate has recently purchased 3,000 acres of magnetic iron land near Dahlonega, and will, it is said, develop.

Dalton—Natural Gas.—It is reported that natural gas has been discovered. S. B. Felker can give information.

Empire—Saw Mills and Railroad.—The Empire Lumber Co. are negotiating for the purchase of 50,000 acres of land, and if they buy, will, it is stated, erect saw mills and build a railroad.

Jasper—Bagging Factory.—A pine straw bagging factory will be started.

La Fayette—Oil Well.—An oil well will be sunk on the farm of Marsh & Allgood.

Lexington—Ginnery.—W. W. Berry has started a cotton ginnery near Lexington.

Macon—Gas and Water Works and Electric-light Plant.—It is stated that Mr. Van Steenburg, representing an English

syndicate, will shortly arrive in Macon to inspect with a view to purchasing the Macon gas works, water works and electric-light plant, and if purchased it is the intention to expend \$50,000 on improvements, building a 15,000,000 gallons capacity reservoir and laying additional mains for the water works. The syndicate, it is said, has a capital of \$3,000,000.

Macon—Oil Mill.—The Planters' Oil, Guano & Ice Co. have broken ground for their cotton-seed oil mill lately mentioned.

Macon—Electric Railway.—George F. Work, previously reported as purchasing the Macon Street Railway and to change it to an electric road, will complete 10 miles of electric railroad in one year at an estimated cost of \$125,000 if given a franchise. New 40-pound rails are to be laid.

Macon—Bagging Factory.—The establishment of a cotton bagging factory is agitated.

Rome.—Mr. Lytle, of Bartow, Fla., has purchased the Cohen property in South Rome, containing about 250 acres, at \$68 per acre, and will lay it off in building lots.

Rome—Electric-light Plant.—The City Council has decided to have electric lights and wants bids. Address John C. Printup, chairman gas committee, Rome.

Rome—Rolling Mill.—The Rome Rolling Mill Co. are enlarging their rolling mill.

Stillmore—Railroad.—Bowison & Bowison, operating saw mill, have ordered 6 miles of 40-lb. steel rails and locomotive for an extension of their railroad to be known as the Brunswick, Athens & Northwestern Railroad.

Tallulah Falls—Railroad.—The extension of the Blue Ridge & Atlantic Railroad, previously reported, will be to Knoxville, Tenn.

Temple.—B. F. Morgan will establish saw mill and gin; has purchased machinery.

Thomaston—Oil Mill and Ginnery.—The Farmers' Alliance contemplates erecting a cotton-seed oil mill and cotton ginnery.

Turnersville—Iron Mines.—A syndicate composed of Hon. Joseph E. Brown, of Atlanta, and others have taken an option on iron ore lands near Turnersville.

Ty Ty—Ginnery.—J. B. Herron has purchased an engine to run his cotton ginnery.

Ty Ty—Saw Mill.—W. K. Glover has purchased and will operate a saw mill near Ty Ty.

Washington—Dummy Line.—J. M. Smith, of Oglethorpe, has applied for a charter for the dummy line he intends to build to Lincolnton.

Watkinsville—Soap Factory.—J. L. Parr expects to start soap factory and will probably locate at Athens, Ga.

Weston—Corn Mill and Ginnery.—The Webster County Farmers' Alliance are erecting a corn mill and cotton ginnery.

KENTUCKY.

Bardstown—Natural Gas.—The Salt River Natural Gas, Oil & Mineral Co. has been organized and leased lands on which to sink wells.

Cloverport—Street Railway.—A street railway is talked of.

Corydon—Natural Gas.—The office of the Trenton Rock Gas & Mining Co., reported last week as contracting for natural gas well, is Henderson.

Covington.—The Cincinnati Mirror Plate & Beveling Co. has been incorporated by A. O. Goshorn, W. C. Peale and others with a capital stock of \$25,000.

Fordsville—Coal Mines.—The Fordsville Railroad is opening coal mines at Reynolds.

Geigersville—Coal Mine.—Mr. McKittick has contract for building the incline and tippie for the new coal mine previously reported as to be opened by the Ashland Coal, Iron & Railway Co.

Hardinsburg—Saw Mills.—Messrs. McCracken will, it is stated, erect several saw mills on their timber lands near Hardins-

burg, and build a railroad to connect with the Louisville, Hardinsburg & Western Railroad.

Hopkinsville—Water Works.—The cost of the water works, contract for which was reported in last issue as awarded to A. H. Kennedy, of Rockport, Ind., is estimated at \$65,000.

La Grange—Pipe Line.—The La Grange Natural Gas Co. have let contract, it is reported, for constructing the pipe line previously reported.

Louisville.—Louis K. Ferguson and E. B. Danmont have incorporated the Louisville Refining Co. for the refining of cotton-seed oil and the manufacture of soap and barrels. The capital stock authorized is \$75,000.

Maysville.—The Rocky Mountain Gold Mining Co. has been incorporated by D. W. Robinson, H. B. Thompson, H. M. Folsom and others, of New York, N. Y. The capital stock authorized is \$500,000.

Middlesborough—Furniture Factory.—C. G. West, of the Middlesborough Wood-working Co., will shortly begin the erection of a furniture factory.

Myers—Railroad.—The stock company reported in this issue as being organized by Daniel Turney to rebuild the hotel at Blue Lick Springs will probably build a railroad from Myers to the Springs.

Newport.—The Western Gas & Oil Co. has been incorporated by E. W. Ober, J. B. Hutchinson, H. C. Rash and others to develop oil and gas lands. The capital stock is \$100,000.

Newport—Water Works.—Bids have been re-advertised for to build the stand-pipe and tower at the United States barracks, previously reported. Captain A. H. Young will receive bids until September 13.

Owensboro—Natural Gas.—The Tar & White Sulphur Springs Co., mentioned in last issue as to build a hotel at Tar Springs, will bore for natural gas.

Pineville—Electric-light Plant.—An electric-light plant is to be erected.

Pineville—Street Railway.—A street railway will probably be built.

Pineville—Wood-working Factory.—A wood-working factory to employ 50 men is reported as to be built at West Pineville.

Richmond—Railroad.—The Richmond, Nicholasville, Irvine & Beattyville Railroad Co. have let contract for the construction of their road from Richmond to Beattyville, 57 miles, previously reported, to D. Shanahan & Co., of Louisville. The road is to be built to Irvine by April 1, 1890, and to Beattyville by June, 1890. The estimated cost is \$355,000.

LOUISIANA.

Devalls—Sugar-house.—W. L. Clark has put a 7-foot vacuum pan and four Weston centrifugals in the sugar-house on his Clarkland plantation.

Gibland—Planing and Grist Mill.—Jeff Pace is reported as erecting a planing and grist mill and a wood-working factory.

Lobdell—Sugar-house.—Hamilton & Kohoe Bros. are building a new sugar-house on their Allendale plantation to contain a 5-roller mill with steam train vacuum pan and improved centrifugals. The daily capacity will be 50 M pounds of sugar.

New Orleans—Oil Mill.—The Protection Oil Co., Limited, reported last week as incorporated for the manufacture and refining of petroleum and petroleum products, also the manufacture of tanks, cans, barrels, etc., will probably enlarge operations in September or October and may possibly need some machinery.

Roseland—Canning Factory.—A canning factory will probably be established. Mr. Boyd can give information.

Roseland—Saw Mill.—A large saw mill is being erected. Mr. Boyd can give particulars.

Roseland—Sash and Blind Factory.—It is reported that Palmer & Gallup, of Hammond, will move their sash and blind factory to Roseland.

Slaughter—Publishing.—Hugh Watson, of Natchez, Miss., contemplates publishing a newspaper.

MARYLAND.

Baltimore—Rolling Mill.—Coates & Co. will rebuild their rolling mill at Locust Point reported in this issue as burned.

Oakland—Railroad.—The Oakland & State Line Railroad Co., previously reported, are building a railroad from Confluence, Pa., to a point 17 miles west of Deer Park, and will be eventually built to that point and Oakland. It will be leased and operated by the Baltimore & Ohio Railroad.

Sykesville—Lumber Mill.—Wade Warfield contemplates putting new machinery in his lumber mill.

Washington, D. C.—Edmund Hudson will publish a newspaper.

Washington, D. C.—Cable Road.—The Washington & Georgetown Railroad Co., mentioned in last issue as about to commence work on their cable road, have executed a mortgage to E. F. Riggs, Thomas Hyde and C. A. James for \$3,000,000 to build same.

MISSISSIPPI.

Aberdeen.—The Aberdeen Land, Manufacturing & Construction Co. is being organized by Anton Stern, F. P. Jisknis, C. W. Gibson and others, to have a capital stock of \$150,000.

Cliftonville—Ginnery.—J. L. Myers will establish ginnery.

Greenville—Hedge Fences.—The Greenville Hedge Co. has been organized to build hedge fences.

Jackson—Bridge.—The contract for the iron bridge over the Pearl river has been awarded to the King Iron Bridge Co., of Cleveland, O., at \$13,000. It is to be 20 feet wide and with approaches 1,080 feet long.

Meridian—Plow Factory.—A. H. Kirkland, of Jackson, contemplates either the removal of his plow factory to Meridian or the establishment of a branch factory.

Meridian—Ice Factory.—The Meridian Ice Co. contemplates enlarging their plant to a capacity of 20 tons daily.

Scranton—Bridge.—Contract will be let shortly by W. M. Denny, county clerk, for building a new bridge across Bluff creek.

Scranton—Lumber Mill.—The L. N. Dantzer Lumber Co. are repairing their mill.

Vicksburg—Sewerage System.—The Louisville, New Orleans & Texas Railroad Co. are building a sewerage system at their new shops, previously reported, to cost \$3,000.

Winona—Coal Shute.—The Georgia Pacific Railroad Co. (office Birmingham, Ala.) will shortly build a coal shute 400 yards long.

NORTH CAROLINA.

Asheville—New Enterprises.—It is reported that arrangements have been made for the establishment of a foundry and machine shop, a wagon factory, and a spoke, handle, hub and shingle factory.

Concord—Bleachery.—The bleachery previously mentioned as contemplated will, it is reported, be established. If true J. M. Odell can probably give particulars.

Elizabeth City—Electric-light Plant.—Guirkin & Co. have ordered machinery for their electric-light plant previously reported.

Greensboro.—D. N. Kirkland has contract for the new four-story leaf tobacco factory of Bevil & Scott, lately mentioned.

Greensboro—Knitting Factory.—The Greensboro Knitting Co. have completed the erection of their knitting factory, previously reported, and will shortly put in place their machinery.

Morganton—Sash, Door and Blind Fac-

tory.—J. W. Robertson & Co. will enlarge their sash, door and blind factory.

Mt. Pleasant—Furniture Factory.—A furniture factory is being built.

Murphy—Mining.—A company has purchased from W. G. McNelly the J. A. Arp mineral property, near State Line, containing 162 acres, and will, it is said, begin development at once.

Newton—Gold Mine.—Andrew Ramsaur will probably develop the gold mine of Miss Edwards.

Peachland—Cotton Factory.—Efforts are being made to build a cotton factory.

Salisbury—Distillery.—J. T. Wyatt & Co. will start sassafras distillery.

Salisbury—Printing.—The Salisbury Herald has put a new press in their printing office.

Salisbury.—Stanly county has voted \$100,000 to aid the building of the Yadkin Railroad from Salisbury to Narwood.

Shelby.—It is reported that Northern parties will develop the J. M. Andrews gold mine tract on Cane creek.

Swansborough—Fertilizer Factory.—The Swansborough Co-operative Manufacturing Co. is being organized for the manufacture of fertilizers.*

Swansborough—Shingle Factory.—Perry & Co. are erecting a shingle factory.

Tillery—Lumber Mill.—The North Carolina Lumber Co. has been incorporated by N. McRae Robinson, H. H. Fries and W. W. Richards, of New York, N. Y. They have purchased the saw and planing mill and dry-kiln of J. R. Tillery for \$10,000; they have also purchased 2,500 acres of timber land and will build a railroad to the land from Tillery, and, it is reported, will erect a sash, door and blind factory and later on a cotton-seed oil mill.

Wilmington.—It is stated that if the rolling mill lately mentioned is established, an industry will be started employing 200 hands to use the products of the mill.

Wilmington—Bagging Factories.—The American Pine Fibre Co., previously reported as to build several fibre and bagging mills in South, will shortly commence work.*

Wilmington—Compress.—The Wilmington Compress & Warehouse Co. have commenced the erection of the cotton compress previously reported.

Wilmington.—It is reported that a Baltimore company will establish the china and glassware factory previously reported. The Chamber of Industry can give particulars.

Wilmington—Woodenware Factory.—The Industrial Manufacturing Co., reported last week as purchasing the Clarendon Iron Works and to put in machinery for the manufacture of woodenware, will increase their capital stock.

Winston—Tobacco Factory.—R. J. Reynolds is erecting a leaf tobacco factory.

Yadkin College—Tobacco Factory.—T. S. Dale & Co. will build a tobacco factory.

SOUTH CAROLINA.

Beaufort—The Beaufort Phosphate Co. have increased their capital stock from \$10,000 to \$15,000.

Blackville—Canning Factory.—Simon Brown, P. W. Farrell, F. M. Mixson and others have incorporated the Enterprise Canning Co. to establish a canning and preserve factory. The capital stock is \$4,000.

Charleston—Electric Railway.—It is reported that the City Railway Co. will extend their line and possibly operate their road by electricity.

Chester—The Moffatt Manufacturing Co., previously reported as organized, has been chartered by Joseph Wylie, W. E. Moffatt, S. B. White and others with a capital stock of \$30,000.

Columbia—Fertilizer Factory.—The Columbia Phosphate Co., previously reported as organized for the manufacture of fertilizers, have commenced the erection of their factory buildings, to cost \$18,000, and let contract for their machinery to Valk & Muddock, of Charleston.

Columbia—S. A. Pearce is endeavoring to secure the erection of an aluminum plant in Columbia.

Eutawville—Railroad.—The Eutawville Railroad Co. will change their name to the Charleston, Sumter & Cheraw Railroad Co. and extend their road to Cheraw.

Florence—Road.—J. W. Scully, quartermaster U. S. A., Atlanta, Ga., will receive proposals until September 21 for constructing a macadam road at the Florence National Cemetery.

Georgetown—Furniture Factory.—The Georgetown Lumber & Manufacturing Co. has been incorporated by J. B. Steele, S. S. Fraser, A. A. Springs and others for the manufacture of furniture, mattresses, lumber and woodenware. The capital stock is \$15,000.

Gladdens—Saw Mill.—Hall & Co. will erect a saw and grist mill and cotton gin it is reported.

Gourdin's Station—Lumber Mill.—J. Ratbone & Co., of Chicago, Ill., previously reported as having purchased 20,000 acres of timber land, will, it is said, establish a lumber mill.

Greenwood—Compress.—R. C. Hitt, of Augusta, Ga., will move his cotton compress at Charlotte, N. C., lately mentioned, to Greenwood.

Haile Gold Mine—Mining.—The Haile Gold Mining Co. are erecting a 60-stamp mill.

Marion—Ginnery.—S. E. McMillan will erect a cotton ginnery on the McMillan plantation near Marion.

Mount Holly—Phosphate Mining and Fertilizer Factory.—W. B. and J. B. Chisolm, of Charleston, have incorporated the Mount Holly Mining & Manufacturing Co. for the mining of phosphate and the manufacture of fertilizers. The capital stock is \$25,000.

Mt. Pleasant—Hub and Spoke Factory.—J. C. Mallon, of Charleston, will build a spoke, hub and wheelbarrow factory if donated a site.

Orangeburg—Ice Factory.—It is reported that an ice factory will be started.

Orangeburg—Electric-light Plant.—The erection of an electric-light plant is projected.

Summerville—Bagging Factory.—Efforts are being made to have the American Pine Fibre Co., of Wilmington, N. C., locate one of their branch pine fibre bagging factories in Summerville.

Whetstone—Saw Mill.—A new saw mill is reported as being erected.

TENNESSEE.

Bristol—Railroad.—A vote on a subscription of \$40,000 to the Bristol & Asheville Railroad, previously reported, will take place on September 28.

Chattanooga.—The Chattanooga Novelty Manufacturing Co., reported last week as chartered for the manufacture of the Tyler patent flour and meal receptacle, have ordered machinery for their factory.

Chattanooga.—The National Manufacturing Co. has been incorporated by E. S. Reed, W. L. Magill, James McNabb and others for the manufacture of patented articles from brass, iron, wood and other material.

Chattanooga.—The City Street Railway Co., lately mentioned as to change their railway to an electric road, will build a 500 horse-power station. It is also rumored that they will light their route by electricity.

Chattanooga—Sand Mining.—Kavenah Bros., of Memphis, will mine sand from the river.

Chattanooga—Planing Mill.—Duncan, Pyott & Co. have sold their planing mill to Wm. R. Stivers.

Chattanooga—Brick Works.—The Tennessee Paving Brick Co., previously reported as organized, are putting in their machinery.

Chattanooga—Gas.—The Georgia Gas Improvement Co. has been incorporated by C. A. Hemphill, C. A. Collier, of Atlanta, and others.

Chattanooga.—The Chattanooga Basket & Package Co., mentioned last week as enlarging their factory, are putting in machinery for the manufacture of wooden butter dishes.

Chattanooga—Artesian Well.—D. P. McKee, Somerset, Ky., has received the contract to bore artesian well for the Lookout Mountain Water Co.

Cleveland—Planing Mill.—Lynch & Geren contemplate adding a planing mill to their saw mill plant.

Dunlap—Publishing.—Mr. Mattice will publish the Tribune.

Franklin—Electric-light Plant.—A stock company is being organized to erect the electric-light plant mentioned in last issue. It is to have a capacity of 20 arc and 200 incandescent lights. Bids are wanted. Address Reville & Journal.

Franklin.—Efforts are being made to organize a land and improvement company. Reville & Journal can give information.

Gallatin—Electric-light Plant.—Negotiations are being made for the erection of an electric-light plant at the Gallatin Cotton Mills.

Jellico—Lumber Mill.—The Jones Lumber Co. are enlarging their lumber mill.

Jonesboro—Mineral and Timber Lands. The rumor reported last week of the purchase by English capitalists of the Embreeville iron property is confirmed. The property embraces 45,000 acres mineral and timber land and an old furnace. It is reported that it will be developed on large scale. S. J. Kirkpatrick, Jonesboro, Tenn., can give information.

Knoxville—Factory.—A factory is to be established, it is reported, to employ 200 hands.

Knoxville—Laundry.—Mr. Thompson, proprietor of the Palace Hotel, will start a steam laundry.

Knoxville—Public Improvements.—North Knoxville, previously reported as issuing bonds to the amount of \$100,000 for public improvements, has issued an additional \$100,000 worth of bonds.

Knoxville—Railroad.—McDonald, Shea & Co., of Knoxville, previously reported as having contract for building the Charleston, Cincinnati & Chicago Railroad, have sublet part of the work, it is reported, to W. J. Colvin, R. F. Rivenack, William Stallings, G. W. Callahan and T. H. Stansil. The total contract is for several million dollars of work. All financial arrangements are reported as definitely closed.

Loudon—Flour Mill.—The erection of a \$30,000 flour mill is talked of.

Memphis—Railroad.—The Memphis Belt Line & Suburban Railway Co., previously reported as chartered to build a road from the Kansas City, Memphis & Birmingham Railroad, at Magnolia station, to Raleigh, and from the Wolfe river to the line mentioned, have received a franchise to use certain streets of the city on condition that the work be completed in one year.

Nashville—Water Works.—The board of public works and affairs have awarded the contract to furnish the pumping engine previously reported to Henry R. Worthington, of New York, N. Y. The daily capacity is to be 70,000,000 gallons.

Nashville—Railroad.—The Nashville Northern Railroad Co., reported last week as to be chartered, have organized with John Woodward as president; I. T. Rhea, first vice-president; E. C. Lewis, second vice-president, and J. M. Williams, secretary and treasurer.

Nashville.—The stockholders of the Napier Iron & Mining Co. will meet September 3 for the purpose of arranging for the development of their property.

Nashville.—The stockholders of the Laurel Hill Manufacturing Co. will meet September 3 to consider the development of their property.

Nashville—Electric Railway.—The company formed by the consolidation of the Main Street & Lischey Avenue Railroad Co. and the Nashville & Edgefield Railroad Co., mentioned in last issue, will have a capital stock of \$300,000 and be bonded for \$400,000. Heavier rails will be laid on the Nashville & Edgefield line. The estimated cost of the change to electricity is \$100,000.

Nashville—Publishing.—The Baptist, published at Memphis, and the Baptist Reflector, published at Chattanooga, have consolidated and will in the future be published in Nashville.

Paris—Medicine Factory.—The \$50,000 stock company previously reported as probably to be organized to establish medicine factory has been chartered as the Paris Medicine Co. by E. W. Grove, W. H. Laster and others.

Ripley—Ochre Mine.—L. H. Bell, of Louisville, Ky., has purchased 75 acres of land containing yellow ochre and will develop.

Spring City—Saw Mill.—G. R. Baldwin has purchased a saw mill near Dayton, and will remove it to Spring City.

Sweetwater—Flour Mill.—The Sweetwater Milling Co. have put new machinery in their flour mill.

Tullahoma—Wood-working Factory.—G. W. Steagall has added the band saw previously reported to his wood-working factory. The capacity is 3,500 feet daily.

Williamsport—Saw Mill.—J. W. Harlow is building the saw mill previously reported as being put up.

TEXAS.

Beaumont—Flour Mill.—The erection of a flour mill is being agitated. V. Weiss can give information if anything is done.

Chester—Saw Mill.—D. H. Flemming & Son will improve their saw mill.

Cleburne—Foundry and Machine Shop.—William Clarkson is organizing the \$25,000 stock company reported last week as to establish foundry and machine shops.

Corsicana—Sewerage System.—The city has issued \$20,000 of bonds to build the sewerage system previously reported as contracted for.

Corsicana—Canning Factory.—A canning and pickling factory is projected.

Corsicana—Cigar Factory.—A cigar factory has been recently established.

Dallas—Mining.—Lee Worthington is opening a mine.

Dallas.—W. McGrain, city secretary, will receive bids until September 25 for lining two storage and subsiding reservoirs, involving about 37,000 square yards of slope lined with brick, and 67,000 square yards of cement linings in bottoms.

De Kalb.—The De Kalb Lumber Co., previously reported, are building a railroad to haul lumber.

Del Rio—Ochre Mining, Barrel Factory, &c.—J. H. Barton and J. Friedlander, previously reported as discovering ochre mine, are organizing a company to develop the mine; may build barrel factory, &c.

Denison—Canning Factory.—The Denison Canning Co. have let contract for the erection of their canning factory to M. W. Cloney, of Kansas City, Mo.

Denison—Fibre Factory.—A bonus of \$5,000 and a site has been offered, it is

stated, for the establishment of a fibre factory.

Greenville—Ice Factory.—Edgar Taylor, of Corpus Christi, will move his ice machinery, having a daily capacity of 4 tons, to Greenville.

Houston—Sewerage System.—D. C. Smith will receive bids until September 23 for the construction of the sewerage system previously reported.

Houston—Cotton Mill.—Efforts are being made to secure the establishment of a cotton mill.

Jefferson—Bridge.—An iron bridge will probably be built at Polk street. The mayor can give information.

Marlin—Water Works.—The city has authorized the issuance of \$6,000 for water purposes.

San Angelo—Water Works.—The stock company lately mentioned as contracting for the sinking of an artesian well will build water works.

San Angelo—Artesian Well.—The Artesian Well Co. invites bids for boring artesian well.

San Antonio—Electric Railway.—The Crosstown Railroad Co. have been granted the franchise lately mentioned to build a rapid transit road to the fair grounds. They are to complete an electric road by November 5.

San Diego—Gin and Mill.—E. G. Perry, reported last week as starting a gin, should be E. G. Perez, who has also started corn mill; cost \$6,000.

Sherman—Electric Railway.—The College Park Belt Line Railway Co. have been granted a franchise to build their electric railway lately mentioned. They are to begin work within 30 days.

St. Paul—Ginnery.—The Farmers' Alliance has purchased and will operate the St. Paul cotton ginnery.

Taylor—Artesian Well.—The Taylor Artesian Well Co., mentioned in last issue as letting contract for the sinking of an artesian well, has been incorporated with a capital stock of \$50,000.

Weatherford—Street Railway.—The Weatherford City & Suburban Railway Co. have given a mortgage for \$25,000 to T. C. Sattley to build their street railway lately mentioned.

Weatherford—Railroad.—The Weatherford Mineral Wells & Northwestern Railroad Co., previously reported as to build a railroad from Weatherford to Mineral Wells, have executed a mortgage for \$350,000 to the Manhattan Trust Co., of New York.

Wichita Falls—Grain Elevator.—The erection of a grain elevator is proposed.

Wortham—Ginnery.—A stock company will probably erect a cotton ginnery.

Wylie—Ginnery.—A new cotton ginnery is being erected.

VIRGINIA.

Berkley—Electric Railway.—The company previously reported as organized to build an electric railway, will probably let contract to the Sprague Electric Railway & Motor Co. M. W. Mason is interested.

Big Island—Paper Mill.—It is stated that the Lynchburg Pulp & Paper Mill Co. will begin the immediate construction of the paper mill previously reported.

Big Island—Paper Mill.—The stock of the new Lynchburg Pulp & Paper Mill, previously reported, has been fully subscribed. This insures the doubling of the capacity of the pulp mill and the building of a paper mill.

Buena Vista—Paper Mill.—J. B. Blackburn, of Staunton, vice-president of the Buena Vista Pulp & Paper Co., will shortly go North to purchase machinery for the paper mill previously reported.

Buena Vista—Iron Furnace.—The Buena Vista Co. have broken ground for their 100-ton coke furnace, previously reported.

Covington—Railroad.—The company reported in this issue as purchasing the Warm, Hot and Healing Springs properties will build a railroad from Covington, it is stated, up the Jackson river. J. A. August, Hot Springs, can give information.

Danville—Knitting Factory.—W. D. Judkins and Lewis Garner contemplate establishing a factory for the manufacture of knit goods, overalls, shirts, etc. About \$40,000 is to be invested in the factory.

Fredericksburg—Silk Factory.—It is stated that negotiations have been closed for the location of the silk factory previously reported as contemplated by C. W. Wilder & Co.

Ingalls.—The Ingalls City Investment & Improvement Co. has been chartered by Richard W. Tyler, Lawrence Sands, R. G. Rutherford and others, of Washington, D. C., and Prof. R. N. Pool, of Staunton, to build a town near Waynesboro. The capital stock authorized is \$1,000,000.

Ingalls—Iron Ore Mining.—The Roseland Iron & Coal Co. have let contract for mining from 100 to 1,000 tons of iron ore a day at the new town of Ingalls near Waynesboro; work to be commenced at once. Prof. R. N. Pool, Staunton, can give particulars.

Ingalls—Dwellings.—The Roseland Iron & Coal Co. will build 50 dwellings for miners at once. Prof. R. N. Pool, Staunton, can give particulars.

Iron Gate—Steel Works.—It is reported that arrangements have been completed for the establishment of a basic steel plant.

Long Dale—Iron Mine.—It is reported that several new veins of iron ore have been opened.

Manchester—Gas Works.—The Manchester Fuel, Power & Lighting Co. have petitioned for the renewal of their franchises which have expired, so as to enable them to build the works contemplated.

Manchester—Paving.—The street committee have awarded contract to Thomas Barry for paving Fourteenth street, from Hull to Perry, with "spall or rubble," at 97½ cents per square foot, and paving Ninth street with same at 95½ cents per yard. Contract for curbing Fourteenth, from Hull to Perry, was awarded to Rennie & McIntosh at 79 cents per lineal foot.

New Market—Wagon Factory.—P. S. Wise will enlarge his wagon factory.*

Norfolk—Railroad.—The Virginia Beach Railroad, previously reported as to widen their gauge, are getting ready to make the change.

Pond Gap—Iron Mine.—Mr. Winter is developing iron ore at Estelline, near Pond Gap, and will, it is said, build a track to Pond Gap.

Pond Gap.—The parties mentioned last week as purchasing the Augusta White Sulphur Springs property, and to build a hotel and make improvements, have incorporated the Augusta White Sulphur Springs Co. with Richard W. Tyler, of Washington, president; R. N. Pool, of Staunton, vice-president, and R. G. Rutherford, secretary. The capital stock is \$100,000.

Pond Gap—Iron Mines.—The name of the company previously reported as purchasing the Terrol iron property is the Aurora Co. They have commenced developing the iron ore.

Richmond—Coal Mining.—It is reported that a company is being formed in Wilkesbarre, Pa., to mine coal in Chesterfield county near Richmond.

Richmond—Laundry.—The Richmond Towel Co., Box 301, will start a steam laundry.*

Richmond—Publishing.—Brown Allen is reported as organizing a company to publish a paper.

Richmond—Water Works.—The Bon Air Water Co., capital stock \$25,000, has been incorporated with T. M. R. Talcott, presi-

dent, to build water works for small town near Richmond.

Roanoke—Wagon and Implement Factory.—The Roanoke Wagon & Agricultural Implement Co., to have a capital of not less than \$10,000 nor more than \$100,000, is being organized for the manufacture of agricultural implements and wagons. The Board of Trade can give information.

Roanoke—Foundry and Stove Works.—A company will probably be organized to establish a foundry and stove works. The Board of Trade can give information.

Staunton—Railroad.—The Keating Railroad Co., of Pennsylvania, reported in last issue as receiving contract to build 25 miles of the Staunton & West Augusta Railroad, are arranging to commence work at once. Prof. R. N. Pool, Staunton, can give particulars.

Wythe County.—Zinc Mines.—The Bertha Zinc Co., of Pulaski, have purchased the Falling Cliff farm from Dr. Bromlett for \$50,000. The property contains iron zinc ores.

WEST VIRGINIA.

Buckhannon—Railroad.—The survey has been completed and contract will be let shortly for the Buckhannon River Railroad.

Davis—Publishing.—The Davis City News and the Davis City Times will be published.

Elkins—Machine Shops.—The West Virginia Central & Pittsburgh Railroad, previously reported as to build machine shops at Elkins, expect to commence work on them shortly.

Farmington—Oil Wells.—It is reported that several oil wells will be sunk on Dunkard Mill run.

Gorman—Publishing.—The Independent will be published.

Grafton—Feed Mill.—Nuzum & Heironimus have put in a feed mill.

Huntington—Railroad Shops.—The Newport News & Mississippi Valley Railroad Co. (office, Richmond, Va.) will increase the capacity of their shops.

Morgantown—Knitting Factory.—Walter Snyder, of Philadelphia, Pa., is considering the erection of a knitting factory at either Morgantown or Pt. Pleasant.

New Cumberland—The Fisher Oil Co. have received nine oil well engines.

New Cumberland—Brewery.—It is reported that Schmulbach's brewery will be enlarged.

New Cumberland—Fire-brick Works.—The Union Brick Works, lately reported as burned, are being rebuilt. The loss was \$10,000.

Pennsboro—Factory.—R. P. Starbuck will probably establish a factory.

Riverview—Lumber Mill.—Robinson & Freeland are putting a 70-inch circular saw in their lumber mill.

Shinnston—Railroad.—Efforts are being made to build a railroad from Shinnston to a point on the Ohio River Railroad in Tyler county.

Weston—Water Works and Electric-light Plant.—The erection of water works and an electric-light plant is projected.

Weston—Oil Wells.—Mr. Hugil, of Pennsylvania, has purchased about 5,000 acres of oil lands in Weston county and will sink three test wells.

Weston—Railroad.—Stanley & Olds, of Ohio, have been awarded the contract to build the new railroad to Burnsville, 26 miles, previously reported. They are to have the first 15 miles completed by April 15, 1890. The contract for grading from Brunswick to Sutton will be let about October 15. Hon. J. N. Camden, of Parkersburg, is president.

Wheeling—Bridge.—The Wheeling Bridge Co. have commenced work on the superstructure of their bridge over the Ohio river, previously reported.

Wheeling—Cold-storage Warehouse.—The Wheeling Ice & Storage Co., previously reported as letting contract for the erection of their ice factory, will build a cold-storage warehouse at a later date.

Wheeling—Iron Works.—A movement is on foot to establish works for the manufacture of heavy forgings.

Wheeling—Soap Factory.—The Seventeenth street soap factory is being enlarged.

White Sulphur Springs—Iron Mines.—The Glenmore Iron Co., previously mentioned as organized at Richmond, Va., to develop about 3,000 acres of iron ore lands near White Sulphur Springs, will, it is stated, soon begin work. W. T. Patton will superintend.

BURNED.

Baltimore, Md.—The rolling mill of Coates & Co. at Locust Point; loss reported to be about \$18,000. Will be rebuilt at once.

Beaufort County, N. C.—The Pantego Mills, owned by the John L. Roper Co., of Norfolk, Va.; loss \$1,500.

Gainesville, Texas.—The flour mill of Scruggs & Waby damaged \$5,000 to \$8,000 by boiler explosion.

Groveton, Texas.—The saw mill of P. Jossier & Bro.; loss about \$7,000.

Hartwood, Va.—Saw mill of A. K. Crittenden; loss \$3,000 to \$4,000.

Jefferson, Ark.—The saw mill of H. C. Sappington; loss estimated at \$25,000.

BUILDING BIG BUILDINGS.—BOSTON OFFICE OF THE FORT WORTH LOAN & CONSTRUCTION CO., BOSTON, August 24, 1889.—This company have in hand the following work, some of it nearly completed:

The large hotel for the Capitol Syndicate, Teline, Texas.

The Stephenville National Bank, Stephenville, Texas.

The seven-story iron and stone bank and office building (their own) at Fort Worth, Texas.

The electric street-car line, Austin, Texas. The electric power-houses, &c., &c., Fort Worth, Texas.

The street-car line, Gainesville, Texas, and several private residences in Fort Worth.

WILLIS H. POST, Secretary.

TO BUILD LARGE FIBRE MILLS.—FULL LINE OF MACHINERY WANTED.—WILMINGTON, N. C., August 26, 1889.—We have bought already such machinery as we will need for the enlargement and improvement of our present plant at Cronly, N. C., but we propose to begin the erection of several other plants at various points in the South this fall for manufacturing pine leaf fibre and cotton bagging, and will be in the market for considerable machinery. We will have to furnish plans and specifications for tanks, rubbing machines, wringers, pickers, carders and driers, which must needs be built to order, and we will also require engines, boilers, pumps, and belting and shafting, and, with few changes, the spinning and weaving machinery used in a jute mill. AMERICAN PINE FIBRE CO.

NEW RAILROAD.—WAYNESBORO, GA., August 26, 1889.—Brinson & Brinson, of Stillmore, saw mill and railroad people, have placed an order for six miles 40-lbs. new steel rail; also a large new American type locomotive for an extension of their railroad, the Brunswick, Athens & Northwestern, notice of application for charter of which will shortly appear.

R. J. EDENFIELD.

KNOXVILLE, TENN., August 26, 1889.—I will do a part of the work on the Charleston, Cincinnati & Chicago Railroad, and also build some masonry. I cannot now say what, if any, machinery I will need.

GEORGE W. CALLAHAN.

Building Notes.

- Amite City, La.**—A stock company will probably be formed to build an academy.
- Anniston, Ala.**—The First Methodist Church contemplate building a new edifice.
- Anniston, Ala.**—C. J. & T. L. Houser have let contract to S. Larned for the erection of three-story building, 30x120 feet, previously reported.
- Atlanta, Ga.**—The Catholics will erect a school building.
- Atlanta, Ga.**—Joseph Hirsch will build a fine residence.
- Augusta, Ga.**—Architect Goodrich is preparing plans for the rebuilding of the Augusta Orphan Asylum mentioned last week.
- Ballinger, Texas.**—An \$8,000 school building is to be built.
- Baltimore, Md.**—A new building is being erected for the water department.
- Baltimore, Md.**—Hotel.—W. L. Stork will build a large summer hotel in Baltimore county.
- Beaumont, Texas.**—The Texas & New Orleans Railroad Co. have commenced work on the roundhouse previously reported. It is to have sixteen stalls and to be lighted by electricity.
- Beebe, Ark.**—J. E. Adcox will build a residence.
- Bentonville, Ark.**—Kindly & Dickson will erect several brick stores.
- Bismarck, Ark.**—The Baptists will build a new church.
- Blowing Rock, N. C.**—Hotel.—A \$50,000 hotel will be built, it is reported.
- Blue Lick Springs, Ky.**—Daniel Turney is organizing a \$250,000 stock company to rebuild the Arlington Hotel, lately reported as burned.
- Brunswick, Ga.**—W. S. Branham, C. B. Floyd and F. E. Carnegie will erect a large three-story brick building on Newcastle street.
- Brunswick, Ga.**—The Brunswick Gas Light & Water Co. will erect a brick office building.
- Buena Vista, Va.**—Depot.—Plans have been prepared and bids are being received for the union depot previously reported as to be built by the Richmond & Alleghany Railroad and the Shenandoah Valley Railroad.
- Buena Vista, Va.**—An educational academy will be built, it is stated.
- Buena Vista, Va.**—B. F. Moomaw will erect a bank building.
- Cabot, Ark.**—The Wheelers will build a two-story block.
- Camden, Ark.**—Reeves & Son, N. H. Stark and McDonald Bros. will build brick stores.
- Cape Charles, Va.**—Hotel.—It is reported that Hon. W. L. Scott, of Erie, Pa., has organized a stock company to build a large hotel to cost about \$250,000.
- Carthage, Tenn.**—T. B. Read and John B. Jordan are building residences.
- Carthage, Tenn.**—A branch of the Illinois Building & Loan Association has been organized with A. E. Garrett, president, and L. A. Ligon, secretary.
- Charleston, S. C.**—Mr. Wichman is erecting a two story building 73x28 feet on Queen street. Mr. Caulfield has the contract.
- Chase City, Va.**—A stock company has been organized to build a tobacco warehouse.
- Charleston, S. C.**—Henry Oliver has contract to erect the Young Men's Christian Association Building, previously reported. It is to be three stories high. S. W. Foulk, of Newcastle, Pa., prepared plans.
- Chattanooga, Tenn.**—It is stated arrangements have been completed for raising to five stories all the brick business houses on the east side of Market street between Eighth and Ninth streets.
- Chattanooga, Tenn.**—The Second Presbyterian Church will probably adopt the plan submitted by Lawrence B. Valk & Son, of Brooklyn, N. Y., for their new church.
- Chattanooga, Tenn.**—The Methodist Publishing and the Methodist Historical Society will erect a four-story building.
- Clarksville, Ark.**—A new church will probably be built. B. F. Mills can give information.
- Coleman, Texas.**—Contract for the iron work of the new jail for Coleman county, previously reported, has been let to L. T. Noyes & Co., of Houston, at \$5,600; contract for stone and wood work to J. W. Green at \$9,975.
- Columbus, Ga.**—J. H. Bass and Mr. Solomon will build residences.
- Corning, Ark.**—The Baptists will probably build a new church.
- Covington, Va.**—A site has been selected for the new depot to be built by the Chesapeake & Ohio Railroad.
- Dallas, Texas.**—A seven-story building will be erected at the corner of Live Oak, Elm and Irvin streets, it is reported, for the Central National Bank and the Jarvis-Conklin Mortgage Trust Co.
- Dallas, Texas.**—A market to cost \$75,000 will be built, it is reported. The mayor can give information.
- Decatur, Ala.**—A large industrial school will be built at New Decatur, it is stated, by the Methodist Church.
- Elkton, Md.**—The Catholics are enlarging their church at a cost of \$5,000.
- Fort Smith, Ark.**—J. F. Reed is building a residence.
- Fort Worth, Texas.**—The Fort Worth Loan & Construction Co. will put up office building to cost \$125,000, exclusive of ground, eight stories high, 50x100 feet, built of stone; ground floor finished in marble, rest of building in hardwoods.
- Gaffney City, S. C.**—The Greenville Cotton-seed Oil Mills will erect one of their twenty cotton-seed houses previously reported in Gaffney City.
- Gaffney City, S. C.**—The Farmers' Alliance have let contract for the erection of their warehouse, 60x200 feet, lately mentioned.
- Gaffney City S. C.**—The Charlotte Oil Co. will erect a seedhouse.
- Galveston, Texas.**—The board of regents of the State University will receive proposals for building the medical branch, previously reported, until September 15. The amount available is \$75,000. N. J. Clayton prepared the plans.
- Greensboro, N. C.**—B. J. Fisher is erecting a large brick building. D. N. Kirkland has the contract.
- Greenville, S. C.**—Grandy Bros. have the contract to build the seedhouses for the Greenville Cotton-seed Oil Mills, previously reported.
- Greenville, S. C.**—Hotel.—The Paris Mountain Hotel Co. will enlarge their hotel.
- Greeneville, Tenn.**—A \$5,000 school building will probably be built.
- Greenville, Miss.**—A branch of the American Building & Loan Association has been organized with N. Goldstein, president, and J. R. Shaw, secretary.
- Guntersville, Ala.**—The Baker Brick & Building Co., reported in this issue as organized for the manufacture of brick, will conduct a building and loan association.
- Houston, Texas.**—J. H. Burnett, of Galveston, contemplates building ten or more residences and cottages.
- Hot Springs, Va.**—Hotel.—J. A. August and W. S. Edmund, owners of the Hot Springs property, have organized a company, who have purchased the Warm, Hot and Healing Springs properties, and will improve them and build a new hotel.
- Hot Springs, Ark.**—Joseph Longinetti has let contract for the erection of his three-story building mentioned in last issue to P. J. Ledwidge. It is to cost \$45,000, and have steam heat.
- Iron Gate, Va.**—Hotel.—Thomas Faxton, of Fairfield, has contracted to build a 52-room hotel for the Iron Gate Land & Improvement Co.
- Jackson, Ga.**—The Baptists are building a new church.
- Jackson, Miss.**—The Episcopalians will build a new church.
- Jonesboro, N. C.**—A town hall is to be built.
- Judsonia, Ark.**—Hotel.—A hotel will be built, it is reported.
- Judsonia, Ark.**—D. H. Culbertson will build a two-story block. Joseph Wetzel has the contract.
- Keyser, W. Va.**—J. T. Markwood is building a brick block on Main street.
- Kingston, Tenn.**—H. Chumbliss is erecting a new building for the postoffice.
- La Grange, Ga.**—Hotel.—J. E. Andrews, of La Fayette, Ala., will build a brick hotel.
- Lancaster, S. C.**—A building and loan association will probably be organized.
- Lavaca, Ark.**—A building will be erected by the King Presbytery High School, and bids are being received.
- Little Rock, Ark.**—Contract for building the two-story schoolhouse, 70x80 feet, previously reported, has been awarded to A. M. Bailey at \$21,400. It is to be heated by steam.
- Little Rock, Ark.**—Smeeton, Coleman & Co. are building new hothouses.
- Little Rock, Ark.**—The Ex-Confederate Association will build a Confederate home in Arkansas, and are now selecting a location. W. P. Campbell can give particulars.
- Little Rock, S. C.**—A building and loan association will probably be organized.
- Live Oak, Fla.**—Suwanee county is building a new jail to cost \$7,500.
- Lonoke, Ark.**—The new building previously reported as to be erected for the Lonoke Bank will be two stories, 24x65 feet.
- Louisville, Ky.**—The Industrial Home Co. contemplate erecting a building for their industrial school.
- Lynchburg, Va.**—Depot.—The Lynchburg & Durham Railroad Co., and the Richmond & Danville Railroad Co. will build a union depot.
- Macon, Ga.**—The Macon Exchange Bank have let contract to Carling & Co. to furnish granite for their \$35,000 bank building, previously reported.
- Madison, Ga.**—Atkinson Bros. will build another wareroom for their chair and basket factory.
- Magnolia, Ky.**—The Magnolia College Co. has been incorporated by Walter, J. E. and G. F. Hurst, to build a college. The capital stock is \$12,500.
- Manchester, Va.**—A new jail will probably be built.
- Mammoth Springs, Ark.**—Hotel.—Napoleon Hill, of Memphis, has purchased the Huster Hotel, and will probably remodel it.
- Marlin, Texas.**—A new schoolhouse will be built.
- Marshall, Ark.**—A new schoolhouse is to be built.
- McRae, Ga.**—A branch of the Interstate Building & Loan Association has been organized with A. H. Henley, president, and W. B. Folsam, secretary.
- Montgomery, Ala.**—J. C. Tyson will erect a \$5,000 residence.
- Monticello, Fla.**—The Savannah, Florida & Western Railroad Co. are building a large cotton warehouse.
- Mt. Pleasant, Tenn.**—A Methodist Episcopal school will be built. B. Howard can give information.
- Nashville, Tenn.**—George Moore & Son have the contract to build the police-station and fire-engine house lately mentioned.
- New Orleans, La.**—The Southern Pacific Railroad Co. contemplate building a sugar-shed in the square bounded by Lafayette, Girod, Delta and Front streets.
- Newport, Ky.**—Capt. A. H. Young will receive proposals for erecting an administration building and a boiler-house at the United States barracks.
- Norfolk, Va.**—A branch of the Southern Building & Loan Association has been organized with W. R. Rogers, president; G. W. Taylor, vice-president, and C. E. Yeatman, secretary.
- Ocala, Fla.**—A large cotton warehouse will be built. J. F. Dunn can give information.
- Oliver Springs, Tenn.**—W. C. Walker is building a \$10,000 residence.
- Okoloma, Miss.**—A building and loan association will probably be organized.
- Opelika, Ala.**—J. H. Jeter will erect a brick store building 50x80 feet.
- Orangeburg, S. C.**—A new parsonage will be built for the pastor of the Methodist Church.
- Perry, Ga.**—The Perry Loan & Savings Co. are erecting a new building.
- Plainview, Texas.**—Hale county is building a large schoolhouse.
- Pine Bluff, Ark.**—A new edifice is being built for the Methodist Episcopal Church. Dr. Simmons can give information.
- Powhatan, Ark.**—A building and loan association will probably be organized.
- Prescott, Ark.**—A building and loan association has been organized.
- Richland, Ga.**—The Farmers' Alliance are erecting a cotton warehouse.
- Richmond, Va.**—M. W. Gayle is building a three-story store, 24x122 feet, for E. Y. Cannon.
- Richmond, Va.**—George Ellis Redford is building a three-story store, 26x131 feet for T. J. Todd.
- Roanoke, Va.**—T. T. Fishburne will build a fine residence.
- Roseland, La.**—Hotel.—A large hotel will be built, it is stated. Mr. Boyd can give information.
- Russellville, Ala.**—The residence lately mentioned as to be built by Enoch Ensley will cost \$15,000.
- Savannah, Ga.**—The contract for erecting the new four-story building, 44x68 feet, for the Odd Fellows, previously reported, has been let to W. S. Chaplin. The cost will be about \$40,000. J. H. H. Osborne and G. B. Clarke prepared the plans.
- Sheffield, Ala.**—Miss Helen M. Robinson, of Brooklyn, has contracted with W. J. Casey, of Sheffield, for the erection of ten cottages.
- Sheffield, Ala.**—The plans of Thomas C. Veale, of Chattanooga, Tenn., for the new city hall previously reported, have been accepted. It is to cost not more than \$30,000.
- Staunton, Va.**—The Newport News & Mississippi Valley Railroad Co. (office, Richmond) have let contract for the erection of their depot previously reported to W. A. Chesterman, of Richmond.
- Tallahassee, Fla.**—The board of education will spend about \$15,000 in enlarging and improving the seminary, putting in steam or hot air heat, gas plant, &c.
- Tallulah Falls, Ga.**—Hotel.—W. B. Thomas will build a large hotel, it is reported.
- Tampa, Fla.**—Depot.—The South Florida Railroad Co. (office, Sanford) are building a new depot.
- Tampa, Fla.**—Depot.—The South Florida Railroad Co. (office, Sanford) will build warehouses and a new depot.
- Taylor, Texas.**—A new school building is to be built.
- Tarboro, N. C.**—A building and loan association has been organized by W. E. Fountain, J. R. Gaskill, J. A. Weddell and others.

Texarkana, Ark.—Depot.—A union depot to cost \$75,000 is being built.

Texarkana, Ark.—B. Foreman, D. S. Williams and G. W. Foulke will each build a residence.

Thomaston, Ga.—A branch of the Southern Mutual Building & Loan Association has been organized.

Union, S. C.—The town authorities will build a new fire-engine house.

Van Buren, Ark.—R. B. Allen has contract for erecting the new building for the Crawford County Bank, previously reported.

Virginia Beach, Va.—The Princess Anne Hotel will be enlarged by addition of 87 bed rooms, new parlor, ball room, &c.

Virginia Beach, Va.—Hotel.—The building of another hotel is talked of.

Waldron, Ark.—The Methodists will probably build a new church.

Washington, D. C.—A site has been purchased on Ninth street between E and F on which to erect the seven-story building for the census office and other purposes previously mentioned. It is to be 38x107 feet, and to have two large elevators, steam heat and electric lighting. The estimated cost is \$100,000. J. L. Smithmyer, 1413 C street, prepared the plans.

Washington, D. C.—F. R. Horner will erect 4 brick dwellings to cost \$10,000; T. F. Schneider, agent, 5 brick dwellings on Twenty-first street to cost \$40,000; R. Goldschmid, a \$10,000 brick dwelling on N street; A. P. Fardon, 2 brick dwellings on K street to cost \$6,000; John Hunter, 4 brick dwellings to cost \$6,000; James Berry, 2 brick dwellings to cost \$5,200, and Dr. E. K. Hill, a \$6,000 dwelling at Eckington; N. T. Haller has plans for a three-story brick and stone building to cost \$5,000, and S. H. Stedham plans for a three-story brick and stone building to cost \$6,000.

Weatherford, Texas.—Rev. P. F. Brannon will erect two stone buildings, and A. J. Stanger one.

Wheeling, W. Va.—Henry Schmulbach will erect a one-story building 50x95 feet. Klieves, Kraft & Co. have the contract, and E. W. Wells prepared plans.

Wilmington, N. C.—The Wilmington Compress & Warehouse Co. have commenced the erection of a warehouse 350x60 feet.

SHEFFIELD, ALA., August 25, 1889.—The contract has not yet been closed for the horseshoe nail manufactory, and we are open to a proposal.

SHEFFIELD LAND, IRON & COAL CO.

CLEBURNE, TEXAS, August 23, 1889.—Mr. Wm. Clark intends to establish a foundry and machine shops as a joint stock company. S. N. CLARK.

ELECTRIC POWER PLANT—CHATTANOOGA, TENN., Aug. 23, 1889.—We will erect electric power station of about 500 horse-power. CITY STREET RAILROAD.

A GREAT PLANT—WHEELING, W. VA., August 23, 1889.—Have purchased all machinery, &c., required to run our new plant. Have just started running full. We have now 7 biscuit and 8 glost kilns, 7 in the old pottery, which has been running steadily for 9 years, and 8 kilns in new pottery. We are now the second largest pottery in the United States, with the largest decorating capacity of any pottery in the world. We have 14 extra large decorating kilns. THE WHEELING POTTERY CO.

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MACHINERY WANTED.

If you desire to purchase machinery of any kind consult our advertising columns, and if you cannot find just what you wish, send us particulars as to the kind of machinery needed. We will make your wants known free of cost, and in this way secure the attention of machinery manufacturers throughout the country. You will thus get all information desired as to prices, etc.

Bagging Machinery.—J. W. King, Box Spring, Ga., wants information about machinery for making bagging and rope from native fibres.

Barrel Machinery.—W. J. Carter & Bro., Dublin, Ga., will want steam glueing machine, coopers' hand-tools, hoop-planer and puncher, iron rivets, &c.

Boilers, Engines and Pumps.—The American Pine Fibre Co., Wilmington, N. C., will want engines, boilers, pumps, &c., for several large pine bagging factories to be built.

Boiler and Engine.—W. S. McCulley, Bessemer, Ala., wants boiler and engine.

Cotton Gin and Press.—K. Legett, Centenary, Ala., wants cotton gin and press.

Desks.—N. E. W. Stokely, Acworth, Ga., wants desks and supplies for new school.

Electric Plant.—Rome, Ga., wants bids for an electric-light plant. Address John C. Printup, Rome, Ga.

Electric-light Plant.—Reville & Jounal, Franklin, Tenn., want bids on 20 arc and 200 incandescent light plant.

Engine.—Jones & Co., Spartanburg, S. C., want oil, gas or steam engine for running printing office.

Engine and Wood-working Machinery.—Wade H. D. Warfield, Sykesville, Md., will probably buy engine and wood-working machinery.

Fertilizer.—The Swansborough Co-operative Manufacturing Co., Swansborough, N. C., will, it is reported, want machinery for the manufacture of fertilizers from fish.

Laundry Machinery.—L. P. Gartner, McMinnville, Tenn., wants prices on steam laundry machinery.

Laundry.—D. N. Farnell, 206 S. Fourth street, Wilmington, N. C., wants prices on steam laundry machinery.

Laundry Machinery.—The Richmond Towel Co., Box 301, Richmond, Va., wants prices on steam laundry machinery and office outfits.

Marine Railway Machinery.—T. W. Dexter, superintendent Patent Piling Protector Co., Brunswick, Ga., wants prices on new or second-hand marine railway machinery.

Pumps, &c.—J. A. Dodson, superintendent Georgia, Carolina & Northern Railroad, Monroe, N. C., will want pumps, &c., for water supply.

Saw Mill.—K. Legett, Centenary, Ala., wants saw mill.

Shafting, Pulleys, &c.—The Florence Wagon Co., Florence, Ala., wants shafting, pulleys and fixtures for large factory.

Shafting and Pulleys.—The American Pine Fibre Co., Wilmington, N. C., will want shafting, pulleys, &c., for several large mills.

Stand-pipe and Tower.—New bids are wanted by Capt. A. H. Young, United States barracks, Newport, Ky., for building the stand-pipe and tower for the water works previously mentioned.

Wagon Factory Machinery.—P. S. Wise, New Market, Va., will enlarge wagon factory and will want new machinery.

Water Wheel.—K. Legett, Centenary, Ala., wants turbine water wheel for saw mill.

Water Works Machinery.—Full outfit for water works plant to cost \$30,000 will soon

HETHERINGTON & NASON,

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Boiler Plate and Tank Iron, Lap-Welded Pipe and Boiler Tubes, Boiler and Sheet Iron Rivets, Steam Brass Goods and Engine Trimmings, Iron Valves and Fittings. Pipe Workers' and Machinists' Tools. Wood and Iron Pulleys. Belting, Hose and Packing. SEWER PIPE, FIRE BRICK and CLAY.

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C. S. VAN NUIS,

Constructing and Consulting

ELECTRICAL ENGINEER,

18 Cortlandt Street, New York.

be wanted. Silas B. Wright, De Land, Fla., can give particulars.

Water Works Plant.—A. H. Kennedy, Rockport, Ind., will want complete plant, pump, stand-pipe, &c., for water works to be built at Hopkinsville, Ky.

Wood-working Machinery.—W. S. McCulley, Bessemer, Ala., wants machinery for sash and door and furniture factory.

WILL BUILD WATER WORKS—DE LAND, FLA., August 23, 1889.—We have signed contracts for plans and specifications for a system of water works, cost not to exceed \$30,000, and for a system of sewerage under the Powers patent, the present portion to be erected to cost about \$15,000. The water works system comprises five miles of pipe, of which one mile will be 12 and 8 inch. Pumping station of brick, storage reservoir of three-quarter million gallons, and steel stand-pipe. SILAS B. WRIGHT, City Clerk.

IRON MINING—CARTERSVILLE, GA., Aug. 24, 1889.—We have in operation at Oreville 3 double log washers. Have recently purchased a mine at Fish creek which we expect to equip with washers, &c., very soon. We have a fifty per cent. brown ore very low in phosphorus and practically inexhaustible. THE CENTRAL CO., L. S. MUNFORD, President.

NEW FURNITURE FACTORY—BESSEMER, ALA., August 23 1889.—I will build a sash, door, blind and furniture factory. Will want boiler and engine and machines for the factory. W. S. McCULLEY.

BIG SALE OF MINERAL AND TIMBER LANDS.—JONESBORO, TENN., August 21, 1889.—The Embreeville Iron Works, comprising about 45,000 acres of timber and mineral lands situated on the Nolachucky river, eight miles south of this place, has been sold to an English party for \$100,000. The old furnace has been out of blast since 1873, but it is understood to be the purpose of the purchaser to develop the property on a large scale at an early day.

S. J. KIRKPATRICK.

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Indian Village and Cowboy Encampment. Real Indians, Genuine Cowboys, Mexican Vaqueros, illustrating vividly Frontier and Indian Customs, the Trials, Struggles and Triumphs of Western Life.
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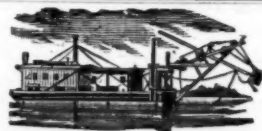
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UNION, S. C.

A Once Dead Town Now Wide Awake,

And Becoming a Thriving, Busy Center.

[Special correspondence MANUFACTURERS' RECORD.]

UNION, S. C., August 10, 1889.

This town, the county seat of Union county, is one of the old towns of the State, but promises soon to be one of the most active and energetic. It is situated in the Piedmont region, one of the healthiest sections of the State, and was first settled in 1755. Before the late war the county was one of the wealthiest and most prosperous of the State, but at the close of the war the greater part of this wealth had been swept away. Large plantations worked by hundreds of slaves had been the rule, and there seemed to be no recuperative power, and the land, before so fruitful, was left to grow up in forest. The tide has now turned and the large plantations are being cut up into small farms which are yielding abundantly to those who cultivate them. Yet there are still hundreds of acres of the most productive soil which can be bought at a low price. No better section for farmers of moderate means can be found than Union county. The people will welcome all those who desire to come among them to make homes. All the products of the temperate zone flourish here, though cotton is the principal product now raised.

The town of Union is one of the most solidly constructed to be found in this section, all stores being brick or stone, and no building in the business district is allowed to be erected unless the roof is of slate or tin, thus reducing the fire risk to a minimum. The council consists of W. T. Graham, intendant, and R. W. Tinsley, S. A. E. Parham, Dr. T. Munroe and J. H. Rodger, wardens, and these gentlemen look closely to the interests of the city; while there is an active board of trade, composed of most of the leading business men, with Capt. F. M. Farr, president, and B. F. Arthur, secretary, which seeks to promote the building of manufactories. A cotton-seed oil mill is now in course of construction and will soon be in operation. W. A. Nicholson is the president of it, and his son, E. Nicholson, is secretary and treasurer. These two gentlemen have also recently organized a private bank under the title of Wm. A. Nicholson & Son. They have built a fine vault in their building and are to add safe deposit boxes.

J. H. Rodger & Co. have just opened a yard for the manufacture of pressed brick, and they are now making brick for the oil mill, which is their first order.

Subscriptions for a cotton mill have been commenced, and \$40,000 already has been pledged. The city council is taking into consideration the erection of a stand-pipe and laying water mains in the fire limits.

The Merchants and Planters' National Bank, of Union, E. R. Wallace, president, was established in Union in 1872. Mr. Wallace, who is now its president, was its first cashier. It has a capital of \$60,000, and a surplus and undivided profit of nearly \$52,000, and since 1873 has not lost one dollar in bad debts. Can any bank in the country show a more favorable report?

There are many advantages here which could be mentioned, but the place should be seen to be appreciated. Correspondence either with the board of trade or the city fathers will receive prompt attention.

JOHN P. COFFIN.

THE MANUFACTURERS' RECORD is an excellent paper, and every builder, manufacturer and machinist ought to take it.—The Carolina Spartan.

New Southern Banks.

Bardstown, Ky.—E. W. Hall & Co. have started a private bank.

Big Stone Gap, Va.—The Bank of Big Stone Gap has been organized with a capital stock of \$50,000, and W. H. Nickels, president.

Blossom, Tex.—J. O. Crutchfield will start a bank with a capital of \$50,000, it is reported.

Buckhannon, W. Va.—The Buckhannon Bank has increased its capital stock to \$60,000 and intends changing from a State to a national bank.

Buena Vista, Va.—The Buena Vista Co. and others will establish a bank.

Charlotte, N. C.—It is reported that a new bank in addition to the one reported last week will be started.

Cumberland Gap, Tenn.—J. L. and C. H. Rogers are organizing a national bank.

Dallas, Tex.—The Central National Bank has been organized with M. E. Locke, president, and B. Blankenship, vice-president. The capital stock is \$250,000.

Dcaur, Tex.—The establishment of another national bank to have a capital stock of \$50,000 is projected.

Dresden, Tenn.—The Bank of Dresden has been organized to succeed the branch of the Bank of Martin.

Gadsden, Ala.—Merritt, William J. and Jay Street, of Clay county; J. Nolin, of St. Clair, and William Stearnes, of Alexander City, will start the bank previously reported.

Galveston, Tex.—The stockholders of the Texas Banking & Insurance Co. have decided to increase their capital stock to \$500,000 and change to a national bank.

Hope, Ark.—The Hempstead County Bank will increase its capital stock to \$100,000.

Jacksonville, Fla.—The capital stock of the Southern Mortgage & Trust Co., previously reported, is \$500,000. C. W. Leonard, A. H. Lewin and T. F. Hastings are the incorporators.

Knoxville, Tenn.—A bank with a capital stock of \$100,000 is to be started, and it is rumored that two other banks will also be started.

Knoxville, Tenn.—The American Banking & Trust Co. has been organized with W. D. Kenner, president, and J. L. Rodger, vice-president. The capital stock is \$100,000.

Mayville, Tenn.—Efforts are being made to organize another bank.

Little Rock, Ark.—A new bank will be started, it is reported.

Louisville, Ky.—A new national bank is being organized with George W. Swearingen, president. The capital stock will be \$500,000.

Macon, Ga.—The Exchange Bank will conduct a savings feature in connection with their regular business.

Nicholasville, Ky.—A new bank is to be organized, it is stated, with John A. Baker, president.

Pocomoke City, Md.—Rev. Wm. Dale is president of the national bank previously reported as being organized with a capital stock of \$50,000.

Rogersville, Tenn.—The Rogersville National Bank has increased its capital stock to \$60,000, and expect to increase to \$100,000 at an early date.

Tracy City, Tenn.—J. C. Biles and S. L. Colville, of McMinnville, offer to furnish one-half of the capital for a \$50,000 national bank.

Waycross, Ga.—The incorporators of the South Georgia Bank of Waycross, reported in last issue, are H. W. Reed, Miles Albertson, H. Murphy and others. The capital stock is \$50,000.

The Million-Dollar Sugar Refinery.

It seems to be an assured thing that Baltimore is to have the million-dollar sugar refinery which has already been spoken of in these columns. The site selected was at Curtis Bay on condition that good water could be obtained. The owners of the land have sunk an artesian well and found an abundance of excellent water. The capital is assured. Most of it comes from Baltimore, and the rest is New York money. Most of the gentlemen interested in the affair are out of the city, but will return soon, when a permanent organization will be effected and work begun. The plant will cost half a million dollars and will require about a year's time to be completed and made ready for occupancy. The rest of the capital will be used as working capital.

As soon as this refinery is in working order the shipping interests of Baltimore will be considerably stimulated, and vessels from the West Indies will be constantly arriving with cargoes of sugar. The company will have the benefit of the fine wharf at Curtis Bay owned by the Baltimore & Ohio Railway.

In an article on manganese in the MANUFACTURERS' RECORD of last week it was inadvertently stated that there is only one analyst in the country whose reports on manganese are accepted by the leading steel makers of the country. This, of course, was incorrect.

Foreign Exchange Quotations.

ALEXANDER BROWN & SONS.

BALTIMORE, Aug. 28, 1889.

| Sterling.—Dull. | |
|---------------------------------|----------------------------------|
| Selling. | |
| 60 days..... 48 3/4 | Commercial... 48 3/4 to 48 3/4 |
| 3 days..... 48 7/8 | |
| Francs.— | |
| Selling. | |
| 60 days..... 519 3/4 | Commercial... 521 1/2 to 522 1/4 |
| 3 days..... 516 1/2 | |
| Richmarks.— | |
| Commercial..... 94 1/2 @ 94 3/4 | |
| Guilders.— | |
| Commercial..... 39 1/2 @ 39 3/4 | |

Baltimore Stock Exchange Quotations.

Reported by ALEXANDER BROWN & SONS, Bankers, Baltimore.

BALTIMORE, August 28, 1889.

| BALTIMORE, August 28, 1889. | |
|---------------------------------------|-------------|
| | BID. ASKED. |
| Virginia 6's Consols C..... | 37 1/2 .. |
| Virginia 3-4-5 10-40's..... | 30 .. |
| Virginia 7's, new..... | 67 .. |
| Virginia Consol Coupons, N. F..... | 18 .. |
| Virginia 10-40 Coupons, N. F..... | 25 .. |
| N. Carolina 6's..... | 12 1/2 .. |
| Norfolk Water 8's, C..... | 128 .. |
| Atlanta & Charlotte..... | 90 .. |
| Charlotte, Col. & Aug..... | 46 .. |
| Ga. Car. & N. 5's..... | 101 1/2 .. |
| Atlanta & Char. income 6's..... | 104 1/2 .. |
| Col. & Green, ad. 6's..... | 85 .. |
| Va. Midland, 1st, 6's..... | 126 .. |
| Va. Midland, ad. 6's..... | 119 .. |
| Va. Midland, 5th, 5's..... | 105 1/2 .. |
| Char. C. & Aug. ad. 7's..... | 121 1/2 .. |
| West Va. Central 1st, 6's..... | 107 1/2 .. |
| Ca. Pacific ad. V. Valley 6's, A..... | 82 1/2 .. |
| Cape Fear & V. Valley 6's, B..... | 106 .. |
| Cape Fear & V. Valley 6's, B..... | 103 .. |

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FOR some time a portable saw mill has been at work near the new town of Steelton, at Sparrow's Point, sawing the logs brought into Chesapeake bay by the freshets last spring. But such a vast amount of work is to be done, that the Williamsport & Chesapeake Lumber Co. has been organized and an extensive and permanent wood-working establishment is to be built. Logs enough have already been corralled to keep the mill running four or five years. The portable mill is now sawing out the frame work of the new mill, which will be erected as soon as the lumber is sawn. The industry promises to be a very extensive one.

JOHN L. WILLIAMS & SON, BANKERS,

—RICHMOND, VA.

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Richmond Stock Exchange Quotations.

Reported by JOHN L. WILLIAMS & SON, Bankers, Richmond.

RICHMOND, VA., August 27, 1889.

| RICHMOND, VA., August 27, 1889. | |
|---|-------------|
| | BID. ASKED. |
| North Carolina 4's, 1910..... | 96 1/2 .. |
| North Carolina 6's, 1910..... | 126 1/2 .. |
| Virginia New 3's, 1910..... | 67 1/2 .. |
| Lynchburg, Va., 5's, 1910..... | 119 .. |
| Petersburg, Va., 5's, 1910..... | 103 1/2 .. |
| Norfolk, Va., 5's, 1910..... | 104 .. |
| Petersburg, Va., 5's, 1910..... | 119 1/2 .. |
| Atlanta & Charlotte Ry., 1st 7's, 1907..... | 119 .. |
| Atlanta & Charlotte Ry. 6's, 1900..... | 104 1/2 .. |
| Char. Col. & Aug. R. R. Gen. 6's, 1900..... | 105 1/2 .. |
| Georgia Pacific Ry. 1st 6's, 1900..... | 112 .. |
| Georgia Pacific ad. 5's, 1903..... | 82 1/2 .. |
| Ga. Pacific income 5's..... | 31 .. |
| Petersburg Railroad Class A 5's, 1906..... | 105 1/2 .. |
| Petersburg Railroad Class B 5's, 1906..... | 106 1/2 .. |
| Rich. & Danville R. R. Gold 6's, 1905..... | 116 .. |
| West. N. Car. R. R. Gen. 6's, 1904..... | 98 .. |
| Northwestern N. Car. R. R. 1st 6's..... | 102 .. |
| Atlanta & Charlotte R. R. Stock..... | 89 .. |
| North Carolina Railroad Stock..... | 107 .. |
| R. F. & Pot. R. R. Div'd Obligations..... | 113 1/2 .. |
| Virginia Midland Railway Stock..... | 38 .. |
| Sloss Iron & Steel Co. Stock..... | 40 .. |
| Sloss Iron & Steel Co. 1st 6's..... | 117 .. |
| Sloss Iron & Steel Co. ad. 6's..... | 61 .. |

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BROWN, SHIPLEY & CO., LONDON.
Financial Agents of the United States Government in England.

A GREAT STEEL PLANT.

The New Industrial Town at Sparrow's Point, on the Banks of the Patapsco.

What It Is Now and What It Promises to Be.

Furnaces, Rail and Rolling Mills, Ship-yards, etc.

A great deal of work is being done by the Pennsylvania Steel Co. on its new plant at Sparrow's Point. A large settlement is already established and six hundred or more men are now at work, but only a small part of the work to be done has yet been accomplished. The four blast furnaces are the nearest completion. They are of 250 tons daily capacity each. They are most conveniently situated, both as to railway and wharf facilities. "Were it necessary they could be made ready for use at very short notice," said Col. Franklin, the local manager, "but it is yet a question when they will be started up."

Adjoining these furnaces men are at work on the foundations of the Bessemer steel mill. The superstructure will soon begin to show up. Near the station, a short distance from these buildings, are the partially completed foundry and pattern shop, and not far off the machine shop is staked out. The rail mill will also be staked out as soon as the Bessemer building is a little further advanced. By the arrangement of the plant, the ore will be taken to the blast furnaces and made into metal, then without cooling be transferred to the steel plant and transformed into steel, then run out into steel rails 180 feet long, and cut into the proper length, 30 feet, before being cooled. The whole plant is to be constructed on the basis of this economy of time, space and energy.

Besides the work on these buildings, a large number of tenement houses are partially completed, and soon about 90 will either be occupied or ready for occupancy. The demand for houses exceeds the supply, and many people are living in temporary affairs. Two dredges are at work making a channel 150 feet wide and 27 feet deep out to the main channel. Gangs of men are busily extending railway tracks, and many other things of one sort and another are requiring work. Two schools have been built, and there are three churches, a Catholic, Methodist and Episcopalian.

When the present furnace plant is in working order it will have a capacity of 1,000 tons of iron a day, but it is reported that other furnaces will be built to greatly increase this amount. Much of this will be converted into steel rails, but there will be every facility for making steel plates or anything else, and also for making machines, doing foundry work, etc. Thus all the intermediate profits will be saved, and the company will be able to compete with the best-equipped iron and steel making concerns in the world. In the course of twelve months it is hoped to have the whole plant in running order. From its convenient situation the company will have every advantage for shipping its goods by sea to all parts of the world. Most of the iron used will come from the mines the company owns in Cuba. The limestone will come from Baltimore county, only a few miles from the plant.

All the buildings are to be fire-proof, and many of them are built entirely of iron. The materials for making the metal will be most conveniently handled by the aid of an electric railway and other electric appliances. The grounds and many buildings will be lighted by electricity. The boilers for the four furnaces have 7,800 horse-power, and ten artesian wells

have been driven to supply pure water for these boilers and for other purposes. A six-foot culvert extends out into the bay to supply salt water for cooling purposes at the furnaces.

Baltimore does not realize what a great industrial establishment this is to be, and what a great benefit it is to be to the city. Between 3,000 and 4,000 men will be employed when at full capacity. This means the distribution of a large amount of money every week. Most of the ore used, if not all of it, will be imported, and such immense quantities will be used that between 300 and 400 steamships, averaging 2,000 to 3,000 tons each, will arrive at the company's wharves every year.

But the greatest benefit to Baltimore will be the ship-yard, which is an assured fact. The establishment of the yard lies in the future, but will receive consideration as soon as the furnaces and rail mill are in working order. With its unsurpassed facilities the company will be able to supply everything necessary to the building of a large ocean steamship of either iron or steel. At present no company in the country can do this. The company claims that it will establish this great ship-yard itself, as for economic reasons it could build vessels cheaper than any other company that would have to purchase its materials in the open market. Here the complete ship from the plates to the ponderous engines will be fashioned, the whole process from the ore to the building of the ship being done by this one great establishment.

In this connection it may be said that the MANUFACTURERS' RECORD can state on authority from Wilmington that cannot be questioned that a proposition has been made to the Harlan & Hollingsworth Co., of Wilmington, Del., to move its great ship-building department, if not all of its plant, to Sparrow's Point, but it is said that this proposition will not likely be accepted. The advantages to be gained by the Harlan & Hollingsworth Co. would be many. They would secure a better water front, with deep water sufficient to launch vessels of any size, and their iron and steel would be produced within a few yards of their works, but those who ought to know doubt the probability of their attempting to move such an immense plant as they now have, where they have been located for so many years.

However, Steelton is to be a great iron and steel-making and ship-building town, and, taken as a whole, when fully completed, this plant will doubtless be one of the most extensive and complete in the world. It is quite probable that considerably over \$5,000,000 will be spent in the development of this enterprise and the necessary rail facilities for handling its traffic before the ship-yard is commenced, and that will involve a very heavy additional outlay.

This is the Best.

Furnace F of the Edgar Thomson Steel Works was blown out on August 8th to be relined. The brick work had given way to such an extent that it could not be repaired. This furnace was blown in on October 18, 1886, and was banked up twice on account of strikes for a total period of 73 days. The time that the furnace was in blast, exclusive of strikes, was 2 years, 7 months and 8 days. The record of the blast is as follows:

| | |
|----------------------|---------------------|
| Total product | 284,795 gross tons. |
| Daily average | 432 " " |
| Best day's output | 479 " " |
| Best week's output | 2,161 " " |
| Best month's output | 8,478 " " |
| Coke per ton of iron | 2,317 pounds. |

Length of blast, total product and daily average product taken together make this the best blast-furnace record of which the country can boast. The best day's output, best week's output and best month's output have also never been excelled.—The Bulletin of Iron and Steel Association.

To New York and Chicago—Greeting.

The metropolis of the Atlantic and the great city of the Lakes are engaged in a more or less friendly rivalry to secure the World's Exposition of 1892. In their earnest work for their respective localities they utterly ignore the fact that Washington, the nation's capital city, has a preemption claim upon this proposed celebration of the discovery of America by Christopher Columbus.

It is passing strange that great newspapers like the Sun, the Tribune and the Herald, of New York, or the Inter-Ocean and Tribune, of Chicago, all of which gave in their news columns reports of what Washington was planning, and of the meetings held in that city several years ago to advance the general idea, should now claim paternity for the idea for their respective cities. As a matter of fact, Washington had a powerful organization and a well perfected plan two years before either of these great commercial cities began to agitate the subject. The Washington Board of Promotion had secured the promised co-operation of three-fourths of the organized commercial bodies of the country, the promised participation of the governments of Mexico and of Central and South America, and the unanimous approval of committees of both houses of Congress, before a move was made in either of the rival cities. By right of priority of idea and action Washington therefore has a strong claim upon the country, independent of all other considerations. The least her rivals can do is to gracefully acknowledge this right, even if they persist in their efforts to grasp the exposition.

The MANUFACTURERS' RECORD has already declared in favor of Washington, and has assigned cogent reasons for that preference that need not be repeated. Nothing has yet been adduced in favor of any other city to lead us to change our opinions. On the contrary, all arguments thus far put forth by the advocates of other locations will apply with equal force to Washington, while there are many potent arguments for that city that cannot be made in behalf of any other.

The great essentials of the proposed celebration, of which the fair is to be but a single feature, are: First. The fitting celebration of a momentous historical event in which this nation must take the lead, and in which all the other nations of America will participate, and this can be done only under the leadership and management of a commission created by Congress. Second. As a natural outcome of the primal purpose, a union of commercial interests and intercourse between all the nations of the American hemisphere.

These are the essentials. Can they be secured elsewhere than in Washington? We think not.

Subscribe to the MANUFACTURERS' RECORD.

THE MANUFACTURERS' RECORD learns from authoritative sources that a New York syndicate will make liberal investments in the purchase of one or more fully-developed extensive iron properties in the South if any of that character with a record of good profits in the past can be had at reasonable prices. Large properties that have been making good profits are what they are after.

RUMORS that Messrs. Cooper, Hewitt & Co. are contemplating some big move in Southern iron and basic steel developments are again heard. The MANUFACTURERS' RECORD gave good reasons some months ago for its belief that Mr. Hewitt had gone to Europe to study basic steel matters with a view to going largely into this business in the South, and it is even more inclined to the same belief at present. There are big things ahead for the South in steel matters.

A POWER plant is at present in operation at Virginia City, Nev., which shows to perfection the wonderful advances that have been made in the sciences of hydraulics and electricity. The condition under which this plant, the plans of which were as startling in conception as the Eiffel tower, was put in operation, was in accordance with the following problem: Having given a small amount of original working power to produce an enormous increase of transmission by some mechanical contrivance, the scheme was not only novel but difficult. Confronted with a scarcity of water, in the increase of which vast sums had been previously spent in vain, the method adopted seemed almost impossible of success.

The point at which this problem was successfully worked out was at the stamp mills of the Nevada Mill & Mining Co., on the Comstock Lode, where the water-power that was obtained from a reservoir on the side of a mountain proved to be entirely inadequate for the operation of the mill, containing over sixty stamps with the many complements. An electric company offered to overcome this difficulty. A shaft near at hand, 1,650 feet deep, was put to good use. In the first place, the waste water, after it had performed its initial work at the mill, was collected and carried by pipes to the shaft above mentioned, thence downward to the bottom of the mine into a subterranean chamber 50x25 feet and 12 in height. In this chamber were placed dynamo-electric generators connected with water wheels. The waste water from above descended through two wrought iron pipes, one of which was ten inches in diameter and the other eight inches. These pipes near the bottom were united by a Y into a single one of fourteen inches diameter, from which the water, with the pressure of a 1,680-foot fall, was carried by six 6-inch pipes to the nozzles of the water wheels provided to drive the dynamo-electric generators. The dynamos were of 130 horse-power each. A copper wire proceeded from these, leading up the shaft to the motor-room of the Nevada Mill, where they connected with six motors arranged parallel to the main shaft, to which these were belted in the ordinary manner. Thus the waste water, after its primary use, descended the shaft to the underground chamber, driving the dynamos which generated the electric current and energized the motors above, which in turn furnished the required additional power to the shafting. The economic value of this power plant is enormous, making a saving of about 77 per cent. over any other method, such as by using increased water power or that of steam. About 70 per cent. of the power applied to the shafts of the generators in the mine is delivered for work at the main shaft of the mill. The company proposes to use the water a third time at a still lower level by the same electrical means.—Boston Advertiser.

No. 2 Combination Saw and Dado Machine.

Special attention is called to the design of the new combination saw and dado machine manufactured by the Williamsport Machine Co., Limited, Williamsport, Pa. This machine has been designed for the purpose of ripping up lumber, sawing at any angle to 45 degrees, plowing, grooving, dadoing and squaring up; also used in the manufacture of door and window

adjusting the sliding tops apart for using the dado head, changing saw, &c.

The carriage is operated by placing the foot on the treadle and bringing the saw carriage forward at any rate from 5 to 100 feet per minute, at the will of the operator, thus enabling the operator to regulate the feed for dadoing through knots, or cutting cross-grained lumber, &c.

By removing the pressure from the treadle the saw carriage is returned to its position by the swing tightener, which

Special Planer and Matcher.

"Why should those who desire to make a specialty of flooring, ceiling, wainscoting, novelty siding, or any other kind of work not over two inches thick, be put to the extra expense of a machine constructed to dress lumber up to four, six or eight inches thick?" That is a question propounded by the Glen Cove Machine Co., 34 Clay street, Brooklyn, N. Y., and answered in the machine illustrated by the

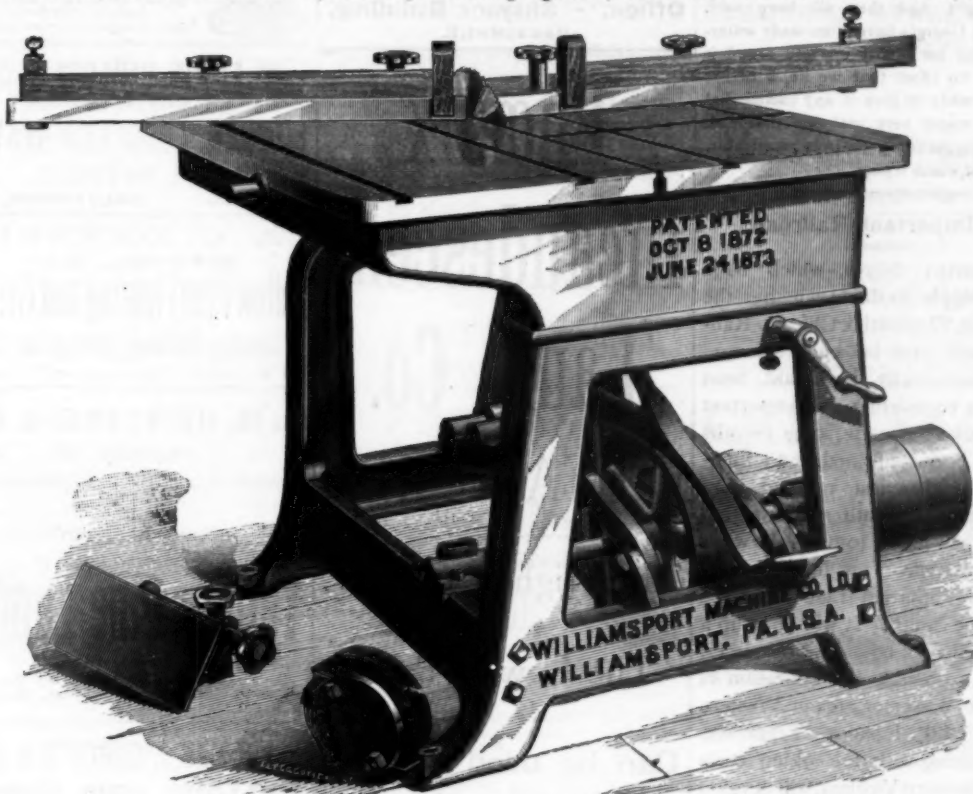
not larger than 2 by 10 inches, it is evident that a machine of that measure, with the weight and strength for fast work, is just what is wanted. This machine seems to fill the bill.

In the first place, it is very heavy for its size, weighing 7,000 pounds. The frame, except in width, is just the same as in the big machines made by this company. The side head works are identically the same, and so are those for the upper and lower cylinders. As this machine, however, is designed only to plane and match from one fourth of an inch to 2 inches in thickness, and up to 10 inches wide, the top holting works do not require to be made as high as in other style machines.

Perhaps the greatest saving in expense is in the parallel raising device and the weighted lever arrangement of the feed rolls. As will be observed from the engraving, the top feed rolls are driven by double toothed star gears. The rolls are hung in yokes, which are each lifted by one screw. These screws lift from the same system of levers, with one weight. Thus, while the feed rolls are obliged to keep, whatever their height, exactly parallel to the bed, the pressure and adjusting appliances are on one side of the machine only—single instead of double.

The machine, as shown, is not equipped with variable feed, but that feature, consisting of expanding pulley rig, can be added at slight cost. It has all the special features peculiar to the Glen Cove machine, most of which are well known to readers of the MANUFACTURERS' RECORD. The feed belt tightener has an adjustment for taking up extra slack caused by changing pulleys, or by the stretching of a new belt.

The "Special" has six feed rolls, and the chip breaker and pressure bars, before and after the cut of the top and bottom heads, are adjustable to the cutting circle of the heads. The piece on the end of the weighted side-head chip breaker is adjustable for long or short knives. The side spindles have self-oiling taper bearings and solid boxes without caps or screws. The cutter head boxes, both top and bottom, are yoked together. The yoke and top cylinder, with boxes and all its appurtenances, may be removed without disturbing any other part of the machine. The platens which take the blows of the knives are all easily adjusted for wear. The carrying-out table, with guides, etc.,



NO 2 COMBINATION SAW AND DADO MACHINE.

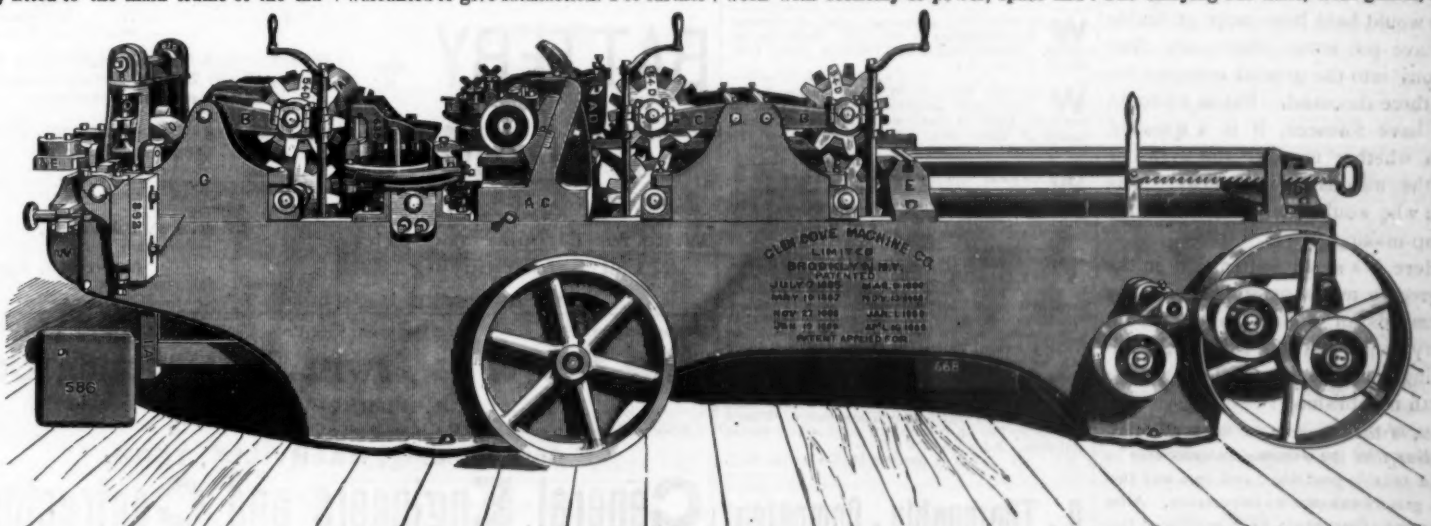
frames, and for mitering heavy moulding, furniture work, &c.; in fact it is the most complete machine ever offered to wood-workers.

The arbor is made of steel and runs in babbitted boxes in a strong yoked carriage. This carriage is fitted with rollers, which travel on ways, thereby greatly reducing the friction. The ways are carefully fitted to the main frame of the ma-

answers a double purpose—one is that it draws back the carriage to its proper position, and the other is that it keeps the driving belt always tight. With each machine the manufacturers furnish an endless driving belt. The iron tops are laid out in degrees for cutting at any angle desired to 45 degrees. Each machine is fully tested before leaving the works, and is warranted to give satisfaction. For further

accompanying engraving.

Of course there are many establishments that do only a small amount of work, but which must be ready to do almost anything. Such concerns need all-around machines, which can be turned to widely differing kinds of jobs; but any mill using more than one planer and matcher can keep such a machine as this constantly at work with economy of power, space and



SPECIAL PLANER AND MATCHER.

chine, and are raised or lowered by worm and worm wheel, operated by the crank at front of machine. This makes a quick and positive adjustment, and requires no set bolts to keep it just where it is wanted, as it can only move by turning the crank.

When operating the machine, the crank can be slipped off in an instant if so desired. The machine is provided with hand-wheel on the side of frame for

information address the makers, who will be pleased to correspond with any parties wanting a machine of the above description.

IF you are thinking of enlarging your mill, factory or mine, or of purchasing machinery of any kind, send us a postal card giving character of machinery desired.

cost of operation in its favor. Added to this is the low price charged for this machine, made possible by the way in which it is simplified without detracting from its quality or efficiency.

Many a practical planing mill operator who wishes to do a large amount of good work buys a big, heavy machine simply to get the weight. As a very large proportion of all the planing done is on stuff

attached, and the presser bar can be thrown away from the under cutter head. Guides on each side of the under head make it convenient to do beading, etc., on the under as on the upper head.

This machine, as stated above, is made with the same care as the larger and more expensive numbers of the company. All parts are made to duplicate, and all are numbered or lettered, and all fittings are made to United States standard sizes.

Watermelon Syrup.

Watermelons have become a crop of very great importance to the agriculturists of the South. This season melons have been sent to the markets of the North and West by the thousand and car-loads. But oftentimes the crop is so great in some sections that prices are so low that it is not worth while to gather it, or the facilities for transporting it to market are so limited that much of it remains unsold. What, then, is to be done with these surplus and unsaleable melons?

Three years ago the government chemists made careful and thorough investigations into the sugar question, and those investigations developed the fact that good syrup can be made from watermelons. The only question was as to such a business being profitable. Sugar-making from melons was found impossible, except to a very limited extent. Taking the sugar-cane as a standard, these investigations showed that sugar cane is rich in sugar-making material, but very deficient in syrup-making material. Sorghum is two-thirds as rich as cane in sugar-making material, while its amount of syrup-making material is only half as great, thus giving it a great lead of cane for syrup-making. The watermelon, both in the meat and the rind, is very deficient in sugar-making material, but not so much so in syrup-making material.

It seems doubtful whether the raising of watermelons for the sole purpose of making syrup would be a profitable business. The raising of watermelons for market has been proved very profitable. If a farmer raises ten thousand watermelons and sells seven thousand of them, he has three thousand to go to waste, or to make into syrup. Could he have foreseen this state of things and raised only seven thousand melons, it probably would have been more profitable to have put some other crop than melons into the ground occupied by the three thousand. But as he could not have foreseen, it is a question then whether to make the syrup or let the melons go to decay. The man who would be thrifty would try syrup-making.

Here is a small matter that in the aggregate might possibly save many thousands of dollars to the South every year. On this subject the following from the Macon Telegraph is worth republishing:

Col. William Duncan, of South Carolina, believes that the watermelon crop may be made reliably profitable, and in a way that will greatly enhance its importance. After numerous experiments he is convinced that the manufacture of watermelon syrup can be made a profitable industry. The syrup he has made from watermelons, he says, was excellent, superior in flavor to cane syrup. All who tasted it agreed with this estimate, and Col. Duncan found no difficulty in selling at a good price all he made. Watermelon syrup, he thinks, could be very easily made popular, and such a large and steady demand for it established as would lead to its general manufacture in the watermelon regions. After extracting the juice,

what remains of the melon can be put to excellent use as feed for stock. Enough can be realized, according to Col. Duncan, from the same of this refuse to pay for the making of the syrup. He believes that the watermelon crop would bring more money if converted into syrup than if marketed at good prices for the raw fruit. He estimates that the crop of Barnwell county, S. C., this year could easily have been made to bring \$200,000 if it had been turned into syrup, a much greater amount than the melons would have brought had they all been sold. Farmers in Georgia have often made watermelon syrup for family use and found it good, but no effort that we know of has ever been made to give it any commercial value. It seems very probable that Col. Duncan's suggestion is entirely practicable. It is at least worth trying.

An Important Railroad.

After many delays, which have caused people to doubt whether the Charleston, Cincinnati & Chicago Railroad would ever be built, arrangements have finally, it is said, been closed for completing this important line. Contracts made some months ago have been confirmed, and a number of the heaviest railroad contractors in the South are hurrying forward their plants to press the work of construction. This line is one of the most important that could be built in the South. It will open up a virgin country of boundless resources, and make possible the utilization of the great Bessemer ores of Western Carolina and Eastern Tennessee, which, uniting with the coking coals of Southwestern Virginia, will develop extensive iron and steel interests in that section.

ELECTRIC PLANT—FRANKLIN, TENN., August 26, 1889.—We will put in an electric plant of about 20 arc and 200 incandescent power. Are ready to receive bids. An effort is being made to organize a land improvement and enterprise company.

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PROPOSALS.

SEALED PROPOSALS will be received at the office of the Supervising Architect, Treasury Department, Washington, D. C., until 2 o'clock P. M. on the 10th day of September, 1889, for all the labor and materials required to complete the approaches to the U. S. Postoffice, &c., building at St. Joseph, Mo., in accordance with specification and drawing, copies of which may be had on application to this office and the office of the Superintendent. Each bid must be accompanied by a certified check for \$100. JAS. H. WINDRIM, Supervising Architect. August 17, 1889.

SEALED PROPOSALS will be received at the office of the Supervising Architect, Treasury Department, Washington, D. C., until 2 o'clock P. M. on the 5th day of September, 1889, for all the labor and materials required to complete the approaches to the U. S. Postoffice, &c., building at Minneapolis, Minn., in accordance with the drawing and specification, copies of which may be had on application at this office or the office of the Superintendent. Each bid must be accompanied by a certified check for \$100. JAS. H. WINDRIM, Supervising Architect. August 14th, 1889.

SEALED PROPOSALS will be received at the office of the Supervising Architect, Treasury Department, Washington, D. C., until 2 o'clock P. M. on the 3d day of September, 1889, for all the labor and materials required to fix in place complete a low-pressure steam-heating and mechanical ventilating apparatus for the U. S. Courthouse, Postoffice, &c., building at La Crosse, Wisc. min., in accordance with the drawings and specification, copies of which may be had on application at this office and the office of the Superintendent. Each bid must be accompanied by a certified check for \$100. JAS. H. WINDRIM, Supervising Architect. August 14th, 1889.

SEALED PROPOSALS will be received at the office of the Supervising Architect, Treasury Department, Washington, D. C., until 2 o'clock P. M. on the 17th day of September, 1889, for all the labor and materials required for the trench excavation, concrete foundations, and stone and brick work of the United States Postoffice building at Lancaster, Pa., in strict accordance with the drawings and specification, copies of which may be had on application at this office or the office of the Superintendent. Each bid must be accompanied by a certified check for \$500. JAS. H. WINDRIM, Supervising Architect. August 24, 1889.

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On account of the death of my son, Arthur Fitts, who was superintendent and one of the principal owners, the Tuskaloosa Cotton Mills will be sold at public outcry in front of the court house in the city of Tuskaloosa, between the usual hours of sale on Monday, the 7th day of October next.

This mill has 175 Thos. Woods Looms, 12 Quilling Frames, and all necessary machinery, with a well-appointed Dye House and Drying Room, by which its widely-known Black Warrior Plaids were manufactured. It has 125 horse-power Engine, made by Wm. Wright in 1883, with two first-class flue, steel Boilers, made by Webb & Co in 1885. The buildings cost over \$25,000, situated on five lots, in the city of Tuskaloosa, and the entire property is exempt from municipal taxes for ten years.

During the eight years it was operated by me it paid the stockholders 101 per cent., and added machinery nearly doubling its capacity.

Parties wishing to purchase are requested to examine the property, and if desired, will be permitted to see the books showing the expenses and profits during the nine years which it has been successfully operated.

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W. & Son 45 Pen-Mar 54 Pennsylvania Steel Co. 34 Perego & Co., W. Edwin 34 Pettet Machine Works 9 Phenix Iron Foundry 3 Phenix Iron Works 34 Phenix Incandescent Lamp Co. 34 Phosphor-Bronze Smeltg. Co. (Lim.) 55 Piedmont Air Line 55 Pierce, Butler & Pierce Mfg. Co. 3 Place, George 35 P. O. Box 277 34 Poor, H. V. & H. W. Porter, H. K. & Co. Powell, A. C., & Son 44 Powell, Wm., Co. 44 Pratt, J. H. 45 Prentiss Tool & Supply Co. 47 Prybil, F. 31 Pulsometer Steam Pump Co. 58 Queen & Crescent Route 54 Racine Hardware Mfg. Co. 5 Rand Drill Co. 5 Rarig & Co., Alex. K. 4 Raymond, C. W. & Co. 41 Record Printing Co. 60 Reliance Gauge Co. Richardson, W. A., & Co. 9 Richmond City Mill Works 45, 53 Richmond Locomotive & Machine Works Richmond Lubricant & Mica Milling Co. 49 Richmond Machine Works 58 Richmond Standard Spike Co. 2 Riehle Bros. Rife's Hydraulic Eng. Mfg. Co. 58 Robinson, Wm. C. & Son 43 Robinson & Orr Rochester Machine Tool Works 4 Rogers & Co., C. B. & Co. 6 Rogers, Saml. C., & Co. 8 Rollstone Machine Co. Rome Foundry & Machine Works 44 Ross, Josiah 4 Rouse, R. R. 59 Rowley & Hermance 8 Russell Wheel & Foundry Co. Ryan & Co., Jno. 55 Ryder & Dearnth 54 Santley, W. R., & Co. 44 Saunders, D., Sons 59 Sawyer-Man Electric Co. Saxton, J. C. 36 Scott & Co. 58 Scovel & Irwin Construction Co. 34 Sebastian, May & Co. 43 Security Mutual Benefit Society 53 Sedgwick Bros. Seyfert, L. F. 47 Sheffield Land, Iron & Coal Co. 47 Shepard Hardware Co. 60 Shepard, H. L. 44 Shields & Brown Co. 56 Shimer, Samuel J. Shryock, Thos. J., & Co. 34 Shultz Belting Co. 46 Sigourney Tool Co. 44 Silver & Deming Mfg. Co. 58 Simpkin & Hillyer 56 Skinner Engine Co. Smith, H. B., Machine Co. 6 Smith, J. A. V. Smith, Jas. & Co. 1 Smith, R. C. 47 Smith, S. Morgan 45 Smith & Vail Co. 58 So. Fla. Foundry & Machine Co. 36 Southwark Foundry & Machine Co. 35 Sprague Elec. Ry. & Motor Co. 35 Springfield Glue & Emery Wh' Co. Standard Dry Kiln Co. 35 Standard Mfg. Co. 65 Standard Oil Fuel Burner Co. 57 Standard Scale Co. 49 Standard Tack Co. 60 Starr, B. F. & Co. 53 Steam Stone Cutter Co. 40 Stearns, E. C. & Co. 58 Stephenson, John, Co. (Limited) 48 Steiff, Chas. M. 45 Stiles & Parker Press Co. 48 Stillman House 55 Stillwell & Bierce Mfg. Co. 37 St. Louis Vice & Artesian Well Tool Co. 58 Stokes & Parrish Machine Co. 60 Stratton Separator Co. 5 Sturtevant, B. F. 47 Sumter, S. C. 1 Sweet, Frank W. 3 Swormstedt, R. & Co. 3 Syracuse Twist Drill Co. Taper-Sleeve Pulley Works 44 Taylor Mfg. Co. 4 Taylor, Wm. & Sons 3 The Tolchester Co. 54 Thompson Mfg. Co. 53 Thomson-Houston Electric Co. Tift, Geo. W. Sons & Co. 4 Titus & Babcock 49 Todd Pulley & Shafting Works 37 Tompkins Co., D. A. 5 Trevor & Co. 6 Udell Woodenware Co. 53 Valley Pump Co. 58 Van Duzen Gas Engine Co. 47 Van Duzen & Tift 59 Van Noorden, E. & Co. 47 Van Nuis, C. S. 30 Van Wagoner & Williams Co. 52 Van Winkle Gin & Machinery Co. 9 Vulcan Iron Works 30 Wainwright Mfg. Co. of Mass. 44 Waldron & Sprout 53 Walker Mfg. Co. Waltham Emery Wheel Co. 41 Ward, J. J. 36 Warfield Mfg. Co. 48 Washburn & Moen Mfg. Co. 10 Waterbury Rubber Co. 10 Waterloo Land Mining & Mfg. Co. 17 Waters, Jas. W., Secy. Waters & Garland Watson & Stillman 58 Webster, Camp & Lane Machine Co. Webster & Co., Warren 44 Wells Rustless Iron Co. 54 Western Maryland Railroad 55 Westinghouse Machine Co. 5 Wheeling & Lake Erie Railway 5 Whitinsville Spinning Ring Co. 9 Whitney & Sons, A. 48 Wier & Wilson 48 Williamsport Machine Co. Williamsport Wire Rope Co. 49 Williams & Son, Jno. L. 31 Wilmington, N. C. 17 Wilson, Colston & Co. 31 Windsor, Jas. H. 35 Wiswell Electric Min'g Mach'y Co. 40 Worthington, Henry R. 10 Woods Machine Co., S. A. 6 Wyckoff, A. & Son 60 Advertisements marked * are inserted every other week, and do not appear in this issue.</div></div><tr><td data-bbox="127 2048 403 2397"><div><div>C</div><div>Caldwell, H. W. 57 Cambridge Roofing Co. 53 Cameron, A. 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Co. 36 Carter, Jno. S. 58 Casey Boiler Manfg. Co. 35 "Cash" 8 Castle Engine Works Chalmers-Spence Co. 3 Chambers Brothers Co. 41 Chandler & Taylor 4 Charlottesville, Va. 17 Chattanooga Foundry & Pipe Wks. 59 Chattanooga Saw Works Chattanooga Paint Co. 48 Chesapeake Belting Co. 35, 46 Chester Steel Castings Co. 48 Chicago Rawhide Mfg. Co. 46 C. H. & D. R. R. 54 Cincinnati Corrugating Co. 53 Clark, Geo. P. Clark, Jeremiah 9 Cleveland & Hardwick 4 Cleveland City Forge & Iron Co. 10 Cleveland Twist Drill Co. Coe & Wilkes Colliar, Victor 43 Cole, W. H. 30 Colonnade Hotel 55 Commonwealth Construction Co. 56 Continental Iron Works 56 Contractors' Plant Mfg. Co. Copeland & Baco 40 Cordesman Machine Co. 35, 36 Cordesman, Meyer & Co. 8 Covert Mfg. Co. 49 Crompton Loom Works 9 Cronk Hanger Co. Curtis Regulator Co. 5</div></div> <tr><td data-bbox="127 2397 403 2397"><div><div>D</div><div>Daft Electric Light Co. 3 Danner, A. C. 34 Davidson Steam Pump Co. Dean Bros. 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| <div><div>B</div><div>Babcock & Wilcox Co. 5 Babcock, H. H., Treas. Baldwin Locomotive Works 48 Ball Engine Co. 4 Baltimore County Fair 30 Baltimore Stor. & Light Co. 54 Barclay & Crockett 17 Barksdale, Wm. R. 36 Barnes, W. F. & John, Co. 43 Barry, W. B., Saw & Supply Co. 60 Bates, Jas. 45 Bay Line 30-54 Bay Ridge 54 Beach, H. L. Beckett Foundry & Machine Co. 4 Belden Machine Co. 44 Bental & Margedant Co. 36 Berger Mfg. Co. 53 Bessemer Land & Imp. Co. 39 Bickford Drill Co. 44 Billings & Spencer Co. 43 Birdall Co. 4 Blake Mfg. Co., The Geo. F. 58 Blakeslee Mfg. Co. 58 Bliss, E. W., Co. 48 Bluffton, Ala. 38 Boggs & Clarke Bokop, H. D. Bookwalter Steel & Iron Co. 60 Boomer & Boschert Press Co., The 30 Boyle, David Bradley & Co. 43 Bradstreet Co. 54 Bray & Nickerson Auto. Gage Glass Co. 44 Brown, Alex., & Sons 31 Brush Electric Co. Buckeye Engine Co. Buckeye Iron & Brass Works Bucyrus Fdry. & Mfg. Co. Buffalo Forge Co. 60 Buffalo Steam Pump Co. 58 Bullock, M. C., Mfg. Co. 40 Burton, F. C., & Co. 37 Butterworth, H. W. & Sons 9 Byrnes, M. A. 49</div></div> <tr><td data-bbox="127 1016 403 1360"><div><div>C</div><div>Caldwell, H. W. 57 Cambridge Roofing Co. 53 Cameron, A. S., Steam Pump Wks. 59 Canning, Reginald & Co. 35 Canton Steel Roofing Co. 53 Carey, Thos. K. & Bros. 1 Carlisle Mfg. Co. 36 Carter, Jno. S. 58 Casey Boiler Manfg. Co. 35 "Cash" 8 Castle Engine Works Chalmers-Spence Co. 3 Chambers Brothers Co. 41 Chandler & Taylor 4 Charlottesville, Va. 17 Chattanooga Foundry & Pipe Wks. 59 Chattanooga Saw Works Chattanooga Paint Co. 48 Chesapeake Belting Co. 35, 46 Chester Steel Castings Co. 48 Chicago Rawhide Mfg. Co. 46 C. H. & D. R. R. 54 Cincinnati Corrugating Co. 53 Clark, Geo. P. Clark, Jeremiah 9 Cleveland & Hardwick 4 Cleveland City Forge & Iron Co. 10 Cleveland Twist Drill Co. Coe & Wilkes Colliar, Victor 43 Cole, W. H. 30 Colonnade Hotel 55 Commonwealth Construction Co. 56 Continental Iron Works 56 Contractors' Plant Mfg. Co. 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Co. 41 Maryland Tack Co. 52 McGowan, The Jno. H. Co. 58 McLanahan & Stone 40 McShane, H. & Co. 52 Mengel, Jno. G. & Co. 54 Merry, C. H. Meyers, Fred J., Mfg. Co. 49 Middendorf, Oliver & Co. 31 Milburn Gin & Machine Co. 1 Miller & Bierce 56 Millers Falls Co. Milner & Kettig 47 Mineral & Timber Land Co. 34 Minnigerode, Wm. 35-36 Moore, F. H. 40 Moore & White Co., The 37 Morris Machine Works 45 Morrison, Robert 42 Morristown, Tenn. 22 Morse, Williams & Co. 1 Morton, Reed & Co. 9 Munson Bros. 1 Murray, Jas. & Son 40 Myers, F. E. & Bro. 42 National Pulley Covering Co. 37 Neuberger, N. C. 17 New Doty Mfg. Co. 60 New York Belting & Packing Co. 3 New York Equipment Co. 35 New York Machinery Depot 47 "Niagara" Hotel 55 Niagara Stamping & Tool Co. 48 Nicholson File Co. 60 Niles Tool Works 43-47 Nordyke & Marmon Co. 10 North American Metaline Co. 9 Northampton Emery Wheel Co. 41 Norton Emery Wheel Co. 41 Noye, John T. Mfg. Co. 4 Obermayer Fdy. Sup. Mfg. Co. 47 Okonite Co. 3 Otto Gas Engine Works 10 Page Belting Co. Palmer, Cunningham & Co. (Lim.) 40 Pancoast & Mauls Payne, B. W. & Sons 45 Penfield, J. W. & Son 45 Pen-Mar 54 Pennsylvania Steel Co. 34 Perego & Co., W. Edwin 34 Pettet Machine Works 9 Phenix Iron Foundry 3 Phenix Iron Works 34 Phenix Incandescent Lamp Co. 34 Phosphor-Bronze Smeltg. Co. (Lim.) 55 Piedmont Air Line 55 Pierce, Butler & Pierce Mfg. Co. 3 Place, George 35 P. O. Box 277 34 Poor, H. V. & H. W. Porter, H. K. & Co. Powell, A. C., & Son 44 Powell, Wm., Co. 44 Pratt, J. H. 45 Prentiss Tool & Supply Co. 47 Prybil, F. 31 Pulsometer Steam Pump Co. 58 Queen & Crescent Route 54 Racine Hardware Mfg. Co. 5 Rand Drill Co. 5 Rarig & Co., Alex. K. 4 Raymond, C. W. & Co. 41 Record Printing Co. 60 Reliance Gauge Co. Richardson, W. A., & Co. 9 Richmond City Mill Works 45, 53 Richmond Locomotive & Machine Works Richmond Lubricant & Mica Milling Co. 49 Richmond Machine Works 58 Richmond Standard Spike Co. 2 Riehle Bros. Rife's Hydraulic Eng. Mfg. Co. 58 Robinson, Wm. C. & Son 43 Robinson & Orr Rochester Machine Tool Works 4 Rogers & Co., C. B. & Co. 6 Rogers, Saml. C., & Co. 8 Rollstone Machine Co. Rome Foundry & Machine Works 44 Ross, Josiah 4 Rouse, R. R. 59 Rowley & Hermance 8 Russell Wheel & Foundry Co. Ryan & Co., Jno. 55 Ryder & Dearnth 54 Santley, W. R., & Co. 44 Saunders, D., Sons 59 Sawyer-Man Electric Co. Saxton, J. C. 36 Scott & Co. 58 Scovel & Irwin Construction Co. 34 Sebastian, May & Co. 43 Security Mutual Benefit Society 53 Sedgwick Bros. Seyfert, L. F. 47 Sheffield Land, Iron & Coal Co. 47 Shepard Hardware Co. 60 Shepard, H. L. 44 Shields & Brown Co. 56 Shimer, Samuel J. Shryock, Thos. J., & Co. 34 Shultz Belting Co. 46 Sigourney Tool Co. 44 Silver & Deming Mfg. Co. 58 Simpkin & Hillyer 56 Skinner Engine Co. Smith, H. B., Machine Co. 6 Smith, J. A. V. Smith, Jas. & Co. 1 Smith, R. C. 47 Smith, S. Morgan 45 Smith & Vail Co. 58 So. Fla. 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A. 5 Trevor & Co. 6 Udell Woodenware Co. 53 Valley Pump Co. 58 Van Duzen Gas Engine Co. 47 Van Duzen & Tift 59 Van Noorden, E. & Co. 47 Van Nuis, C. S. 30 Van Wagoner & Williams Co. 52 Van Winkle Gin & Machinery Co. 9 Vulcan Iron Works 30 Wainwright Mfg. Co. of Mass. 44 Waldron & Sprout 53 Walker Mfg. Co. Waltham Emery Wheel Co. 41 Ward, J. J. 36 Warfield Mfg. Co. 48 Washburn & Moen Mfg. Co. 10 Waterbury Rubber Co. 10 Waterloo Land Mining & Mfg. Co. 17 Waters, Jas. W., Secy. Waters & Garland Watson & Stillman 58 Webster, Camp & Lane Machine Co. Webster & Co., Warren 44 Wells Rustless Iron Co. 54 Western Maryland Railroad 55 Westinghouse Machine Co. 5 Wheeling & Lake Erie Railway 5 Whitinsville Spinning Ring Co. 9 Whitney & Sons, A. 48 Wier & Wilson 48 Williamsport Machine Co. Williamsport Wire Rope Co. 49 Williams & Son, Jno. L. 31 Wilmington, N. C. 17 Wilson, Colston & Co. 31 Windsor, Jas. H. 35 Wiswell Electric Min'g Mach'y Co. 40 Worthington, Henry R. 10 Woods Machine Co., S. 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Co. of Mass. 44 Waldron & Sprout 53 Walker Mfg. Co. Waltham Emery Wheel Co. 41 Ward, J. J. 36 Warfield Mfg. Co. 48 Washburn & Moen Mfg. Co. 10 Waterbury Rubber Co. 10 Waterloo Land Mining & Mfg. Co. 17 Waters, Jas. W., Secy. Waters & Garland Watson & Stillman 58 Webster, Camp & Lane Machine Co. Webster & Co., Warren 44 Wells Rustless Iron Co. 54 Western Maryland Railroad 55 Westinghouse Machine Co. 5 Wheeling & Lake Erie Railway 5 Whitinsville Spinning Ring Co. 9 Whitney & Sons, A. 48 Wier & Wilson 48 Williamsport Machine Co. Williamsport Wire Rope Co. 49 Williams & Son, Jno. L. 31 Wilmington, N. C. 17 Wilson, Colston & Co. 31 Windsor, Jas. H. 35 Wiswell Electric Min'g Mach'y Co. 40 Worthington, Henry R. 10 Woods Machine Co., S. A. 6 Wyckoff, A. & Son 60 Advertisements marked * are inserted every other week, and do not appear in this issue.</div></div> <tr><td data-bbox="127 2048 403 2397"><div><div>C</div><div>Caldwell, H. W. 57 Cambridge Roofing Co. 53 Cameron, A. 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C., & Co. 8 Rollstone Machine Co. Rome Foundry & Machine Works 44 Ross, Josiah 4 Rouse, R. R. 59 Rowley & Hermance 8 Russell Wheel & Foundry Co. Ryan & Co., Jno. 55 Ryder & Dearnth 54 Santley, W. R., & Co. 44 Saunders, D., Sons 59 Sawyer-Man Electric Co. Saxton, J. C. 36 Scott & Co. 58 Scovel & Irwin Construction Co. 34 Sebastian, May & Co. 43 Security Mutual Benefit Society 53 Sedgwick Bros. Seyfert, L. F. 47 Sheffield Land, Iron & Coal Co. 47 Shepard Hardware Co. 60 Shepard, H. L. 44 Shields & Brown Co. 56 Shimer, Samuel J. Shryock, Thos. J., & Co. 34 Shultz Belting Co. 46 Sigourney Tool Co. 44 Silver & Deming Mfg. Co. 58 Simpkin & Hillyer 56 Skinner Engine Co. Smith, H. B., Machine Co. 6 Smith, J. A. V. Smith, Jas. & Co. 1 Smith, R. C. 47 Smith, S. Morgan 45 Smith & Vail Co. 58 So. Fla. Foundry & Machine Co. 36 Southwark Foundry & Machine Co. 35 Sprague Elec. Ry. & Motor Co. 35 Springfield Glue & Emery Wh' Co. Standard Dry Kiln Co. 35 Standard Mfg. 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Co. of Mass. 44 Waldron & Sprout 53 Walker Mfg. Co. Waltham Emery Wheel Co. 41 Ward, J. J. 36 Warfield Mfg. Co. 48 Washburn & Moen Mfg. Co. 10 Waterbury Rubber Co. 10 Waterloo Land Mining & Mfg. Co. 17 Waters, Jas. W., Secy. Waters & Garland Watson & Stillman 58 Webster, Camp & Lane Machine Co. Webster & Co., Warren 44 Wells Rustless Iron Co. 54 Western Maryland Railroad 55 Westinghouse Machine Co. 5 Wheeling & Lake Erie Railway 5 Whitinsville Spinning Ring Co. 9 Whitney & Sons, A. 48 Wier & Wilson 48 Williamsport Machine Co. Williamsport Wire Rope Co. 49 Williams & Son, Jno. L. 31 Wilmington, N. C. 17 Wilson, Colston & Co. 31 Windsor, Jas. H. 35 Wiswell Electric Min'g Mach'y Co. 40 Worthington, Henry R. 10 Woods Machine Co., S. A. 6 Wyckoff, A. & Son 60 Advertisements marked * are inserted every other week, and do not appear in this issue.</div></div><tr><td data-bbox="127 2048 403 2397"><div><div>C</div><div>Caldwell, H. W. 57 Cambridge Roofing Co. 53 Cameron, A. 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Ry. & Motor Co. 35 Springfield Glue & Emery Wh' Co. Standard Dry Kiln Co. 35 Standard Mfg. Co. 65 Standard Oil Fuel Burner Co. 57 Standard Scale Co. 49 Standard Tack Co. 60 Starr, B. F. & Co. 53 Steam Stone Cutter Co. 40 Stearns, E. C. & Co. 58 Stephenson, John, Co. (Limited) 48 Steiff, Chas. M. 45 Stiles & Parker Press Co. 48 Stillman House 55 Stillwell & Bierce Mfg. Co. 37 St. Louis Vice & Artesian Well Tool Co. 58 Stokes & Parrish Machine Co. 60 Stratton Separator Co. 5 Sturtevant, B. F. 47 Sumter, S. C. 1 Sweet, Frank W. 3 Swormstedt, R. & Co. 3 Syracuse Twist Drill Co. Taper-Sleeve Pulley Works 44 Taylor Mfg. Co. 4 Taylor, Wm. & Sons 3 The Tolchester Co. 54 Thompson Mfg. Co. 53 Thomson-Houston Electric Co. Tift, Geo. W. Sons & Co. 4 Titus & Babcock 49 Todd Pulley & Shafting Works 37 Tompkins Co., D. A. 5 Trevor & Co. 6 Udell Woodenware Co. 53 Valley Pump Co. 58 Van Duzen Gas Engine Co. 47 Van Duzen & Tift 59 Van Noorden, E. & Co. 47 Van Nuis, C. 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A. 6 Wyckoff, A. & Son 60 Advertisements marked * are inserted every other week, and do not appear in this issue.</div></div> <tr><td data-bbox="127 2048 403 2397"><div><div>C</div><div>Caldwell, H. W. 57 Cambridge Roofing Co. 53 Cameron, A. S., Steam Pump Wks. 59 Canning, Reginald & Co. 35 Canton Steel Roofing Co. 53 Carey, Thos. K. & Bros. 1 Carlisle Mfg. Co. 36 Carter, Jno. S. 58 Casey Boiler Manfg. Co. 35 "Cash" 8 Castle Engine Works Chalmers-Spence Co. 3 Chambers Brothers Co. 41 Chandler & Taylor 4 Charlottesville, Va. 17 Chattanooga Foundry & Pipe Wks. 59 Chattanooga Saw Works Chattanooga Paint Co. 48 Chesapeake Belting Co. 35, 46 Chester Steel Castings Co. 48 Chicago Rawhide Mfg. Co. 46 C. H. & D. R. R. 54 Cincinnati Corrugating Co. 53 Clark, Geo. P. Clark, Jeremiah 9 Cleveland & Hardwick 4 Cleveland City Forge & Iron Co. 10 Cleveland Twist Drill Co. Coe & Wilkes Colliar, Victor 43 Cole, W. 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Co. 59 Magnolia Anti-Friction Metal Co. 43 Makepeace, C. R. & Co. 30 Marquette, John N. 37 Martin, Henry, Brick Mch. Mfg. Co. 41 Maryland Tack Co. 52 McGowan, The Jno. H. Co. 58 McLanahan & Stone 40 McShane, H. & Co. 52 Mengel, Jno. G. & Co. 54 Merry, C. H. Meyers, Fred J., Mfg. Co. 49 Middendorf, Oliver & Co. 31 Milburn Gin & Machine Co. 1 Miller & Bierce 56 Millers Falls Co. Milner & Kettig 47 Mineral & Timber Land Co. 34 Minnigerode, Wm. 35-36 Moore, F. H. 40 Moore & White Co., The 37 Morris Machine Works 45 Morrison, Robert 42 Morristown, Tenn. 22 Morse, Williams & Co. 1 Morton, Reed & Co. 9 Munson Bros. 1 Murray, Jas. & Son 40 Myers, F. E. & Bro. 42 National Pulley Covering Co. 37 Neuberger, N. C. 17 New Doty Mfg. 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H. 45 Prentiss Tool & Supply Co. 47 Prybil, F. 31 Pulsometer Steam Pump Co. 58 Queen & Crescent Route 54 Racine Hardware Mfg. Co. 5 Rand Drill Co. 5 Rarig & Co., Alex. K. 4 Raymond, C. W. & Co. 41 Record Printing Co. 60 Reliance Gauge Co. Richardson, W. A., & Co. 9 Richmond City Mill Works 45, 53 Richmond Locomotive & Machine Works Richmond Lubricant & Mica Milling Co. 49 Richmond Machine Works 58 Richmond Standard Spike Co. 2 Riehle Bros. Rife's Hydraulic Eng. Mfg. Co. 58 Robinson, Wm. C. & Son 43 Robinson & Orr Rochester Machine Tool Works 4 Rogers & Co., C. B. & Co. 6 Rogers, Saml. C., & Co. 8 Rollstone Machine Co. Rome Foundry & Machine Works 44 Ross, Josiah 4 Rouse, R. R. 59 Rowley & Hermance 8 Russell Wheel & Foundry Co. Ryan & Co., Jno. 55 Ryder & Dearnth 54 Santley, W. R., & Co. 44 Saunders, D., Sons 59 Sawyer-Man Electric Co. Saxton, J. C. 36 Scott & Co. 58 Scovel & Irwin Construction Co. 34 Sebastian, May & Co. 43 Security Mutual Benefit Society 53 Sedgwick Bros. Seyfert, L. F. 47 Sheffield Land, Iron & Coal Co. 47 Shepard Hardware Co. 60 Shepard, H. L. 44 Shields & Brown Co. 56 Shimer, Samuel J. Shryock, Thos. J., & Co. 34 Shultz Belting Co. 46 Sigourney Tool Co. 44 Silver & Deming Mfg. Co. 58 Simpkin & Hillyer 56 Skinner Engine Co. Smith, H. B., Machine Co. 6 Smith, J. A. V. Smith, Jas. & Co. 1 Smith, R. C. 47 Smith, S. Morgan 45 Smith & Vail Co. 58 So. Fla. Foundry & Machine Co. 36 Southwark Foundry & Machine Co. 35 Sprague Elec. Ry. & Motor Co. 35 Springfield Glue & Emery Wh' Co. Standard Dry Kiln Co. 35 Standard Mfg. Co. 65 Standard Oil Fuel Burner Co. 57 Standard Scale Co. 49 Standard Tack Co. 60 Starr, B. F. & Co. 53 Steam Stone Cutter Co. 40 Stearns, E. C. & Co. 58 Stephenson, John, Co. (Limited) 48 Steiff, Chas. M. 45 Stiles & Parker Press Co. 48 Stillman House 55 Stillwell & Bierce Mfg. Co. 37 St. Louis Vice & Artesian Well Tool Co. 58 Stokes & Parrish Machine Co. 60 Stratton Separator Co. 5 Sturtevant, B. F. 47 Sumter, S. 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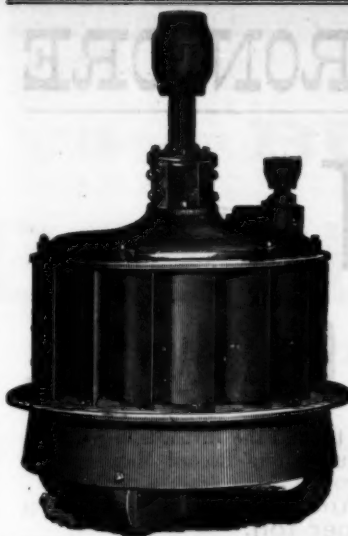
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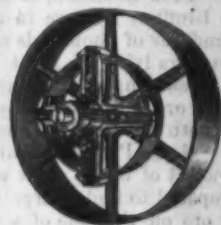
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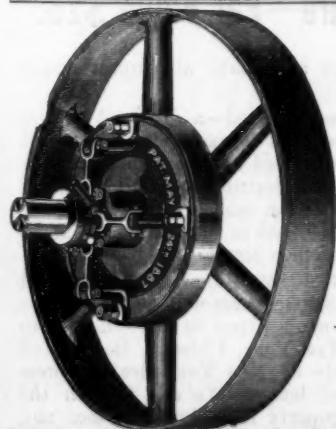
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200,000,000 TONS OF BROWN IRON ORE

IN SIGHT AT

BLUFFTON,

HIGH, HEALTHY AND HONEST.

GOOD PEOPLE AND GOOD WATER.

Cherokee County, Ala.

It is impossible to describe by words the enormous quantity of iron ore that is in sight on the land of this company. Said a prominent railroad man of the South: "I could not believe your statement as to the quantity, (200,000,000 tons in sight), but now that I have seen your ore deposits, I wonder how you put so low an estimate on them."

Prof. Robinson, of Bowdoin College, Brunswick, Maine, says: "I found at Bluffton iron ore in abundance, partly in solid cliff masses containing hundreds of thousands of tons, and partly in the form of gravel and small boulders lying in great banks similar in appearance to the gravel banks of New England. Whether there was as much of the gravel as of the bluff ore I could hardly judge, but it was very clear that the quantities of both were simply enormous."

G. S. Patterson, mining engineer, of Anniston, Ala., reports: "The amount of ore in sight was certainly beyond my expectation, though I was prepared to find a large deposit. The Bluff, as it is called, is a solid mass of ore on the side of a mountain, easily approachable, and can be mined cheaper than at any point in Alabama or Georgia, with which I am familiar."

Mr. Wm. H. Edmonds, of the Manufacturers' Record, says: "As to

the quantity of ore here, I don't suppose that all the furnaces in Alabama could use it up in a lifetime."—See Manufacturers' Record May 18, 1889, article entitled "BILL ARP AND BLUFFTON."

Ore can be delivered at furnaces built here at a cost not exceeding 50 cents per ton.

With high grade ores, analyzing over 50 per cent. metallic iron, delivered at the furnace at the above-named price, is there any possibility of such a place as Bluffton not being able to produce iron at figures which will yield a profit despite the duldest of dull times?

Prof. J. H. Pratt, of Birmingham, Ala., reports on samples selected from our property by Mr. Edmonds and Mr. G. S. Patterson as follows:

| The sample of brown iron ore, marked "Bluff Ore," contains— | The sample marked "Gravel Ore" contains— |
|---|--|
| Metallic iron, - - 52.37 per cent. | Metallic iron, - - 53.23 per cent. |
| Phosphorus, - - - 0.782 " | Phosphorus, - - - 0.931 " |
| Silica, - - - 14.60 " | Silica, - - - 6.25 " |
| Water combined, - 8.10 " | Water combined, - 10.20 " |
| Moisture at 100° C - 2.50 " | Moisture at 100° C - 1.68 " |

LARGEST DEPOSIT OF IRON

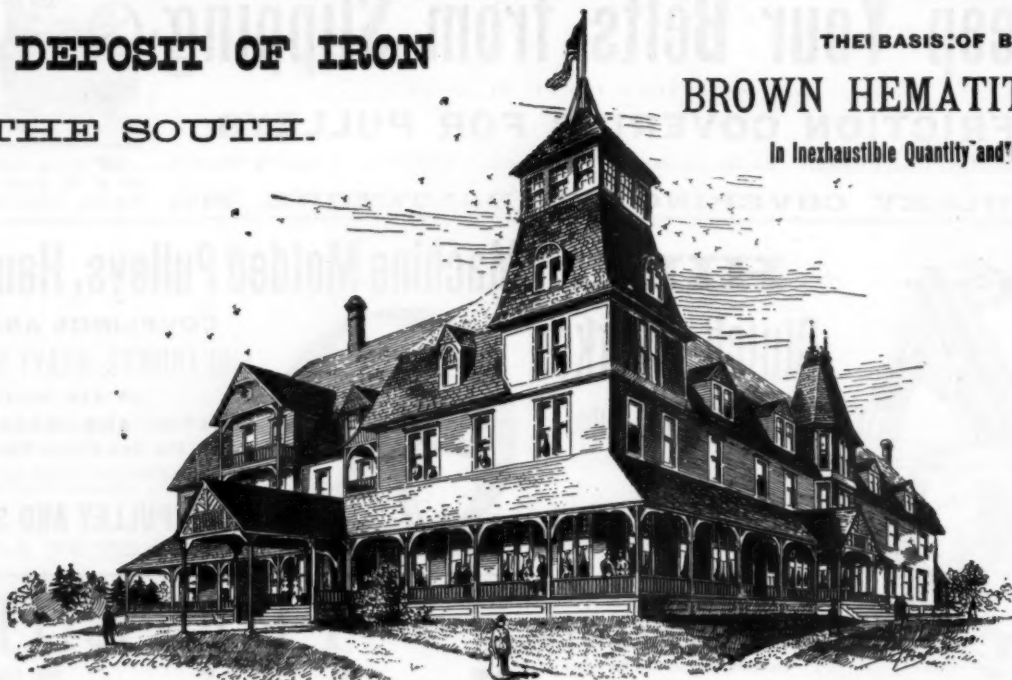
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A Dividend-Paying Stock Below Par. 8,000 Shares of Stock at \$14 Per Share—Par Value \$25.

PRICE OF STOCK:

The directors of the Bluffton Land, Ore & Furnace Co. have decided to offer to investors 8,000 shares (\$112,000) of its treasury stock for the purpose of building a 100 TON DAILY CAPACITY COKE IRON FURNACE at Bluffton, and for such other improvements and purchase of other unimproved real estate as may be considered by the directors for the best interests of the stockholders. This stock is now paying six per cent. from ore shipments, and for the past three weeks we have netted over \$20,000 from the sale of our city property—a sale which is larger by 20 per cent. than our estimate.

Only 8,000 shares will be sold at this price, \$14.00. As soon as this block is sold, which will probably be consummated inside of thirty days, the price will be advanced to \$20.00 per share. The balance left in the Treasury after this sale will probably not be offered less than par, if at all. Judging from present indications, it will not be necessary to sell more than the present block, as receipts from ore shipments and sales of real

estate will be ample to complete the furnace and make all improvements now contemplated.

Such a safe investment has never been offered—a dividend paying stock for less than par. Absolutely safe—cannot be assessed. Fully paid up in the organization. Work will be commenced on the furnace as soon as \$30,000 is subscribed on this sale. Persons desiring to purchase larger blocks than their present means will permit, can make a payment of one-half of the amount desired, the balance to be paid in thirty days. Blanks for subscription will be furnished from this office direct.

Orders will be filled in rotation for 1, 5, 10, 50, 100 or 1,000 shares till the entire block is sold. Positively only 8,000 shares will be sold at the above-named price. Subscriptions can be made direct to this office, or to any of the company's agents here or in New York, Chicago, Boston and Bangor, Maine. Remittances can be made by New York draft, express money order, or by currency by registered letter. We can furnish the highest testimonials in regard to this property from business men and experts who have visited it from all parts of the Union.

SEND FOR PROSPECTUS. ADDRESS

Bluffton Land, Ore & Furnace Company, Bluffton, Ala.

Ex-Mayor ABRAM S. HEWITT, of New York, says this section of Alabama "is the only place upon the North American Continent where it is possible to make iron in competition with the cheap iron of England."

BUSINESS POINTS

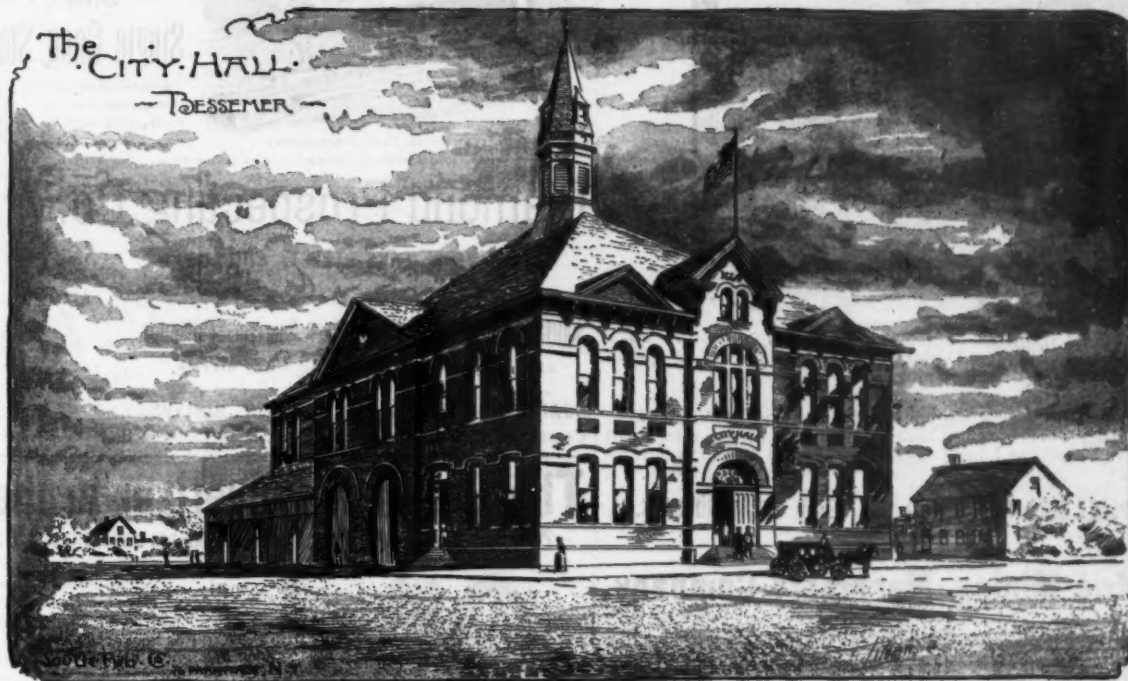
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Bessemer's Iron Foundations.

First.—The DeBardeleben Coal & Iron Company—Two furnaces in blast; two batteries of 170 coke ovens each—340. Extensive coal and iron mines, limestone rock, etc., in active operation. Furnaces situated within the city limits, occupying 160 acres of land—enough for multiplied extensions. Average output 225 tons daily.

Second.—The Bessemer Steel & Iron Company—Two furnaces go in blast December, 1889; two batteries of 200 coke ovens each. Extensive coal and iron mines, limestone rock, etc., in active operation. Furnaces situated within the city limits, occupying 100 acres of land—enough for multiplied extensions. Average output 225 tons daily.

Third.—The Little Belle Iron Company—To go in blast December, 1889. One charcoal furnace, situated within the city limits, occupying 50 acres of land, enough for multiplied extensions. Average output 60 tons daily.

Fourth.—The Bessemer Rolling Mills—Situated within the city limits, occupying 13 acres of land. When running full works 700 hands. One hundred tons possible daily output.

Fifth.—In addition to the coal and iron mines above referred to, in connection with the five furnaces, these proprietors own the **MAGNETIC ORE LAND COMPANY**. The total coal, iron and limestone lands owned by these corporations amount to over

200,000 ACRES.

The **EARLIEST SELECTED** and choicest lands in Alabama, all directly tributary to the City of Bessemer, representing, with furnaces, rolling mills, etc., an aggregate of \$8,000,000, not including other lines of business.

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The Bessemer & Tuscaloosa is completed to Woodstock, a distance of thirty miles, lacking only eighteen miles of reaching Tuscaloosa.

The Bessemer & Selma has been surveyed and grading will soon commence.

The Mobile & Bessemer, an extension of the East Tennessee, Virginia & Georgia, is in process of rapid construction.

The Sheffield & Bessemer is projected to Bessemer. It is now built as far as Jasper, forty miles northwest.

The Birmingham, Powderly & Bessemer Street Railway, Bessemer to Birmingham, will be running by November 1st, half the line being now graded.

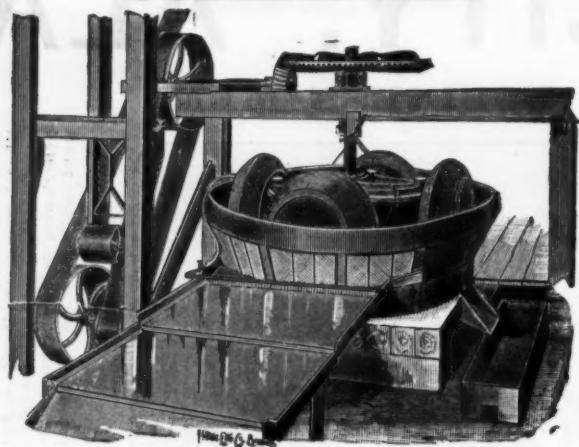
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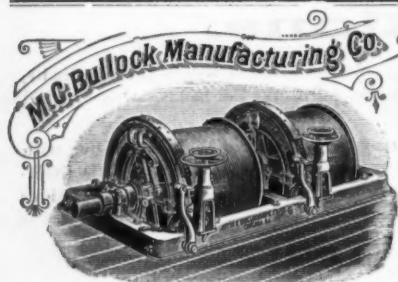
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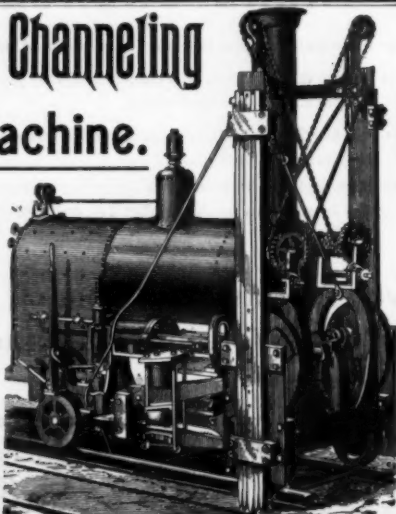
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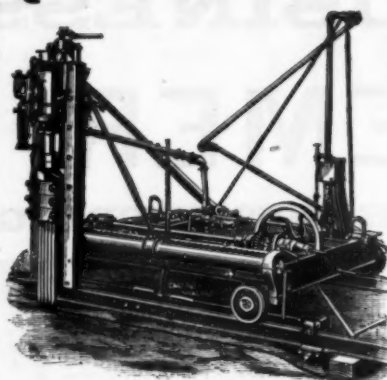
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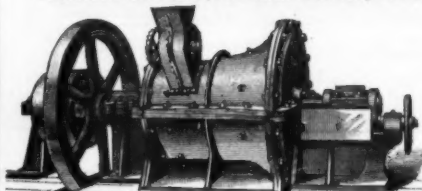
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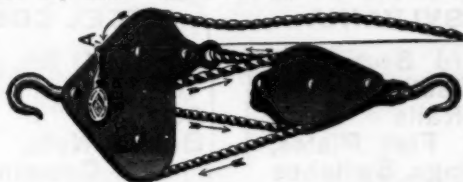
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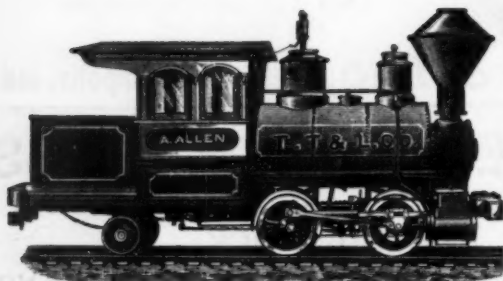
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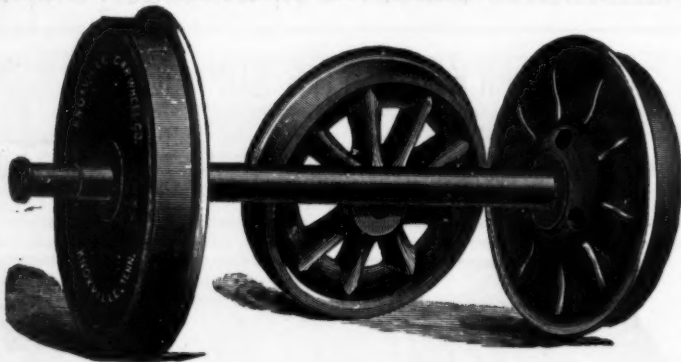
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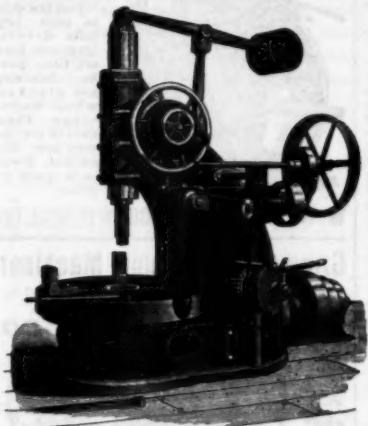
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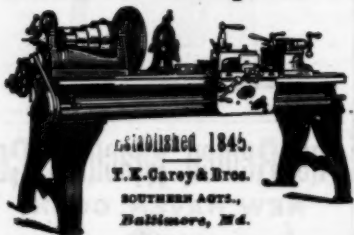
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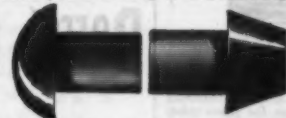
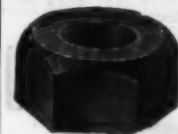
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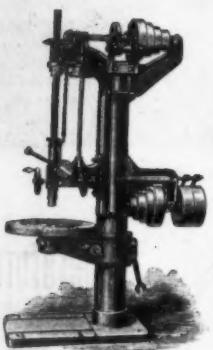
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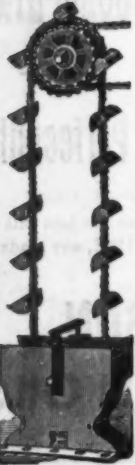


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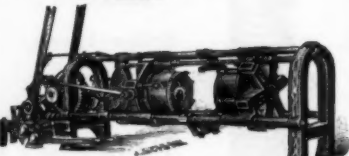
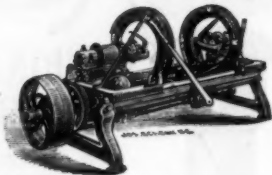
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Couplings, Wood Pulleys in Halves, Taper-Sleeve and Compression Couplings, Shafting, Post and Drop Hangers. Correspondence solicited.

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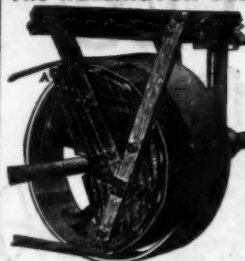
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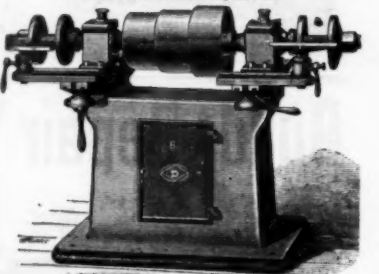
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TRADE NOTES.

THE Lowell Steam Boiler Works, of Lowell, Mass., manufacturers of steam boilers of every description, have on hand some steam fire engines which are in first-class order and will be sold cheap. Those in need of such supplies would do well to write for full description, prices, &c., before purchasing elsewhere.

THE Glen Rock Machine Company, at Glen Rock, Pa., will offer its establishment for sale at public auction on September 12, as will be noticed in our advertising columns. The plant was recently visited by fire, which caused considerable damage, yet a large part of the establishment with its tools is left. The shipping facilities are good. The company has always had a large jobbing trade; so whoever purchases the property gets also good will of much value, in addition to a well-equipped plant.

THE Diamond Machine Co., of Providence, R. I., send out a lithograph banner of their products that will be a very convenient reference card for manufacturers. The products of this company include grinding and polishing machinery, combined level and screw-feed lathes, machine tools, emery wheels and polishers' supplies. The Diamond Co. claims to be the largest manufacturers of this class of machinery in the world, and with such unrivalled facilities is able to fill orders with great promptness, not only in their regular line of goods, but also in special machines. Manufacturers will find it a very great convenience to have one of these banners hanging in their offices.

The complete establishment of the Kyle Lumber Co., at Gadsden, Ala., is offered for sale in our advertising columns. This includes not only their mill, but the timber lands. The mill has a capacity of 30,000 feet a day, and connected with it are dry-kilns, a planing mill, a logging railway, and 20,000,000 feet of long leaf-pine. The mill has an established trade that is valuable, and has always paid a handsome profit on the investment; never less, it is stated, than \$15,000 a year. It is conveniently situated, and has railway connections. Moreover, it is located in Gadsden, one of the growing industrial centers of Alabama. Further particulars can be had by enquiring of R. B. Kyle, Gadsden, Ala.

THE Standard Manufacturing Co., manufacturers of high grades of machinery, particularly wood-working machinery, have moved their establishment from Moore's Hill, Ind., to Edinburg Ind. The new establishment is very complete in its outfit and commodious in its room, giving the company the best of facilities to carry on its large business. Two hundred and fifty men are employed constantly in the shops, thus giving every facility to fill orders with great promptness. Among the leading machines manufactured by this concern are saws of every size, kind and description, jointers, planers, mortisers, moulders, shaftings, pulleys, engines, etc. The Standard Co. is prepared to fit out at very short notice planing mills, furniture factories, chair factories, pail and tub factories, box factories and other like establishments.

WITH the great increase in the number of small industries in the South, the question often arises where to purchase machinery. B. F. Starr & Co., of Baltimore, have long been known for their products, having been established in 1847. The variety of machines made by them is very large, and includes buhr stones for all purposes, portable mills, roller mills, smut machines, shafting, pulleys, gearing and general machinery. They also always have in stock bolting cloths and general mill furnishings of all sorts and a great variety of other goods, and are able to fill orders at

very short notice, even to furnishing mills with their complete outfit. Few manufacturers have more complete facilities for filling orders promptly than this concern. All enquiries for machinery or other goods kept by this concern will receive prompt attention.

AMONG other improvements recently made by the Walker Manufacturing Co., Cleveland, Ohio, one of great importance has been the building of a very large pit lathe capable of turning work up to 30 feet diameter by 8 feet 6 inches face. This lathe is a combination tool, it being only a pit lathe, but also a huge planer in which surfaces 30 feet long by 8 feet 6 inches wide can be planed. It also has facing attachments for the proper facing up of the ends of columns and girders. In addition there are gear planer attachments whereby the teeth can be planed in gears of any size up to 30 feet diameter, and of any proportions desired. This tool places the Walker Manufacturing Co. in the best possible shape for the production of this heavy class of goods. They report business as very good, and have recently been awarded contracts for the cable driving machinery for the Washington & Georgetown Railroad Co., Washington, D. C., and also for the Peoples Railway Co., of St. Louis, Mo.

The Growth of Small Enterprises.

[Special correspondence MANUFACTURERS' RECORD.]

BIRMINGHAM, ALA., August 23, 1889.

So much has been said in the Southern papers about the continued growth and the additional enterprises that are being located South, and the rapid increase in population of many sections, that it would seem as though the subject would be almost threadbare. But it is not, and there never was a time in the past history of the South when times were as big with events as they are now. The development of the small manufacturing interests of the South during the last year or two has been remarkable; it has been but a short time when nearly everything, such as hubs, spokes, axe-handles, baskets, crates and a thousand such wares were bought in the North; now there are hundreds of small factories engaged in the manufacture of such articles, and what is more, car-loads of such manufactured merchandise can daily be seen at the depots being loaded for points north of the Ohio river. Many of these factories have within the past year assumed large proportions, having been enlarged from the profits that have accrued since they were first started, some 3 or 4 years ago, and when it is taken into consideration that their beginnings were small, it can very easily be estimated what the result will be after a few years of successful operations. The opportunities for engaging in such operations are but just in their beginning, and there are no localities in the South where such small industries cannot be established with large prospective profits. Of course, pluck and industry are essential to success, but the beginners would have this consolation, that the market for all articles of this character is unlimited. Another thing is the important advantages that small manufacturers have over big enterprises—that in seasons of unusual depression they can shut down, and in these cases little capital would be idle, few workmen would be out of employment, and they are not affected to any considerable degree by the labor troubles and agitations which often end in strikes, which of course entail heavy losses to the large operators. Almost every town and village in the South, especially about the mineral belt, are suitable locations for all such enterprises.

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BERNHARD DIETZ, Manufacturer of Printers' Rollers and Roller Composition. Factory, N. E. Cor. Grant and Mercer Sts., Baltimore. Prices: Composition (bulk) 30 cents per pound; for casting, 40 to 50 cents per pound. Orders by mail promptly attended to.

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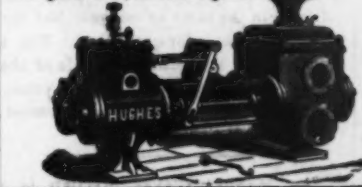
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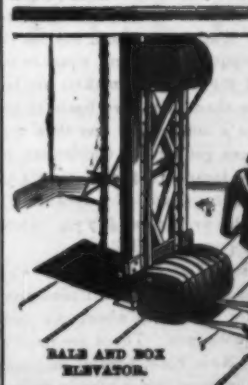
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THE ROBERT AITCHISON
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76 Van Buren St. Chicago, Ill.

THE MARKETS.

OFFICE MANUFACTURERS' RECORD,
BALTIMORE, August 28, 1889.

Reports from the South continue as favorable as could be asked as to the prospects for the crops and the outlook for business. Everything is moving forward, and the South seems to be entering upon the most active and prosperous period in its history. The cotton crop will almost certainly be the largest ever raised; the same promises to be true of corn, while other crops have likewise exceeded all former records. Moreover, the world's supply of cotton is so low that good prices are almost assured for the whole crop; certainly for all that is marketed early in the season. The flow of capital from the North is unprecedentedly heavy, and the activity in industrial interests is widespread.

In spite of the fact that only a moderate amount of business was transacted in iron and steel last week, quotations for certain products actually advanced. The reason for the improvement, if such it is, is that stocks are low and requirements heavy. The production for the next month or two, of most mills and furnaces, is sold. Properly speaking, there is some little capacity yet remaining, and those who desire to avail themselves of it, are willing to pay a slight advance for the preference shown them. Makers of iron and steel base hopes on this fact, of an advance after 60 days. That is to say, many well-informed makers believe, that by November 1st if there is no change in the situation that the present outside prices for small lots will be paid on large lots for future delivery. They argue that this basis will not only be necessary, but just. That there has been an advance in the cost of production; labor is paid 25 cts. more for puddling; anthracite has been advanced; coke has gone up practically 12½ per cent; freights have been leveled up a little, and in certain other directions cost has been increased. Putting all these things together, the iron and steel makers feel perfectly justified in anticipating a general average for early and midwinter products equal to the present outside quotations. Their reasoning may be sound and just, but market conditions have little respect for logic or opinions.

Less Southern iron is finding its way into Northeastern markets than usual. More or less iron yet remains to be delivered on old contracts, but new contracts amount to little, the reason is that there is not that difference in price between Southern and Northern irons, which would induce Northern buyers to prefer the Southern product, besides the Northern output is at present equal to the demand and the Southern makers are less inclined now than they have been to sell their iron for a single cent less than they think they can get for it. Quotations for Pennsylvania forge are \$15.00 to \$15.50; No. 2, \$16.00 to 17.00; No. 1, \$17.00 to \$18.00, with the average at \$17.50. Southern irons are quoted a little less.

Heavy sales of steel billets and slabs have been made at New York, Philadelphia and Pittsburgh, at prices about 50 cents above July quotations. There are pending at present in New York, several important negotiations in steel, some also in spiegel-eisen. No foreign wire rods are selling, on account of high figures. Bessemer pig at interior points is still advancing. In Chicago, St. Louis and in Ohio valley markets there is a slow movement, but at full prices, of crude irons, and a quick movement at full prices, for a variety of iron products, such as general hardware, nails, pipe, merchant steel, and galvanized and sheet iron.

The merchant bar demand all over the country shows no sign of abatement. The demand for all kinds of material for agricultural implements has rather improved than declined. In Western markets, nails continue at the advance recently made. In

Eastern markets they are moving at \$1.80 to \$2, according to size of order.

There is a great deal of pipe line building in the West, and several new schemes are attracting the most earnest consideration of capitalists. Skelp iron contracts are going through at 1.80 to 1.85 and 2.10, for grooved and sheared, respectively. The pipe mills are full of work, and pipe laying is being prosecuted something like the way railroad building was done in earlier days.

The plate iron mills are all well sold up, and nothing more need be said. Large orders for ship and bridge building work are coming in every week. Several railroad companies are in the market, not only for bridge building supplies, but for small lots of rails, railway track material, and machinery for various purposes. Nearly all the roads are increasing their equipments and putting in machinery for repairing purposes.

In the West a good deal of bridge building will be done next winter. The largest contract recently heard of was for the Jeffersonville bridge, to cost \$1,000,000, taken by a Philadelphia firm.

Steel rail orders are not very heavy at present. One 25,000 ton order, it is expected, will go to Pittsburgh this week, or at least, that claim has been made. One 10,000-ton order will probably go to an Eastern Pennsylvania mill.

Old rails have been marked up, and it is difficult to give what buyers would recognize as a correct selling price. Several lots are due this week at Jersey City and Philadelphia. Agents are doing their best to meet the demand at the tempting prices now offered by buyers throughout the interior, who are in absolute need.

The New York iron market has maintained its strength, but not the activity which characterized it two weeks ago.

The tenor of all cablegrams and private foreign advices run in the same rut, viz: activity and full prices. Considerable trouble is being experienced with coal miners abroad, and the exceptional condition of trade has enabled them, in most cases, to secure their own terms.

HARDWARE.

The market is without material change since our last issue. The volume of business continues good and the trade report a very encouraging prospect for the fall business. Prices of wire nails and strap and T hinges still remain demoralized.

The vapor stove manufacturers of the country held their annual meeting at the Oakland Hotel, St. Clair Springs, Mich., August 13th, 14th and 15th. The officers elected for the ensuing year were: D. A. Dangler, president; W. H. Sard, vice-president; F. L. Alcott, commissioner; executive committee—George Kahle, St. Louis; George M. Clark, Chicago; Garson Myers, Chicago; C. A. Pope and F. A. Mehling, Cleveland. Prices on vapor stoves will remain the same as last year, but there will be no rebates for quantities. The association will not permit the sale of obsolete or old pattern stoves at any price, as they have been the demoralizing element in the business the past year.

THE MANUFACTURERS' RECORD is acknowledged as the leading industrial paper of the South, and has done more to bring about the present condition of affairs in the South, and its wonderful development, than any other medium. It has done more to develop the various resources of the South, viz., its mineral, timber and agricultural interests, in bringing them before the people, than any other source. But the crowning feature of its great work in developing and bringing the South and its resources into prominence is being most successfully accomplished in its exploring expedition, which is now in Kentucky, under Goldsmith Ber-

nard West and his competent assistants. His letters are full of interest both to the scientist and lover of adventure. They are read by all with the greatest interest, and at the same time give us a better insight into the wealth and possibilities of our beloved Southland. This is giving the MANUFACTURERS' RECORD an even stronger hold on the people, which it so richly deserves.—Florence (Ala.) Wave

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STITCHED CANVAS BELTING

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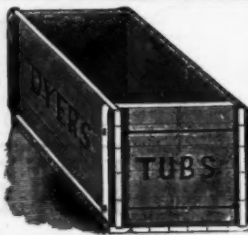


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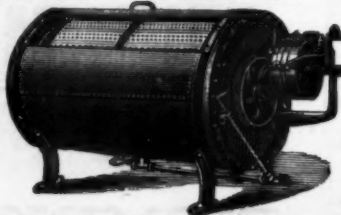
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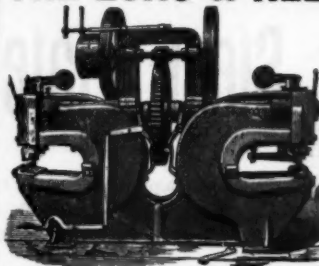
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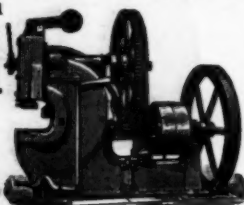
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|---|-------|
| Conn. Valley Mfg. Co..... | |
| Douglas Mfg. Co..... | |
| Ives..... | |
| Cook's Douglas Mfg. Co..... | |
| Griffith..... | |
| Patent Solid Head..... | |
| Russell Jennings' Anger, Dorell, Machine..... | ..... |
| Dorell and Hand Rail Bts..... | |
| Ives' "Jennings" Bts..... | |
| Expansive Bts, Clark's small, 2 1/2; large..... | |

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| Expansive Bts, Ives..... | |
| Expansive Bts, Halsey's..... | |
| Hollow Augers, Ives..... | |
| Hollow Augers, Douglas..... | |
| Hol. Aug., Bonney's Adjust..... | ..... |
| Hol. Aug., Stearns' Adjust..... | ..... |
| Hol. Aug., Ives' Expansive, each \$4.50, dis. out..... | ..... |
| Hol. Aug., Universal Expansive, each \$4.50, dis. out..... | ..... |
| Wood's..... | ..... |
| Gimlet Bts..... | ..... |
| Gimlet Bts, Halsey's..... | ..... |
| Double Cut Gimlet Bts, Shephardson's..... | ..... |
| Double Cut Gimlet Bts, Douglas..... | ..... |
| Double Cut Gimlet Bts, Ives..... | ..... |
| Morse's Bit Stock Drill..... | ..... |
| L'Honnadieu's Ship Augers..... | ..... |

| AWL KAPPS. | |
|------------------------------|-------|
| Sewing Brass Ferrule..... | ..... |
| Patent Sewing, Short..... | ..... |
| Patent Sewing, Long..... | |
| Patent Peg, Plain Top..... | |
| Patent Peg, Leather Top..... | |

AWLS, BRAD NUTS, AC.

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| Awls, Sewing, Common..... | |
| Awls, Shouldered Peg..... | |
| Awls, Patent Peg..... | |
| Awls, Shouldered Head, 1/2 gross \$4.50—dis. out..... | |
| Awls, Handled Head..... | ..... |
| Brad Sets, Allen's..... | ..... |
| Brad Set, No. 40, 50, 60; No. 43, 50, 60 dis. out..... | ..... |
| Brad Set, Stanley's Exc. No. 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 830, 831, 832, 833, 834, 835, 836, 837, 838, 839, 840, 841, 842, 843, 844, 845, 846, 847, 848, 849, 850, 851, 852, 853, 854, 855, 856, 857, 858, 859, 860, 861, 862, 863, 864, 865, 866, 867, 868, 869, 870, 871, 872, 873, 874, 875, 876, 877, 878, 879, 880, 881, 882, 883, 884, 885, 886, 887, 888, 889, 890, 891, 892, 893, 894, 895, 896, 897, 898, 899, 900, 901, 902, 903, 904, 905, 906, 907, 908, 909, 910, 911, 912, 913, 914, 915, 916, 917, 918, 919, 920, 921, 922, 923, 924, 925, 926, 927, 928, 929, 930, 931, 932, 933, 934, 935, 936, 937, 938, 939, 940, 941, 942, 943, 944, 945, 946, 947, 948, 949, 950, 951, 952, 953, 954, 955, 956, 957, 958, 959, 960, 961, 962, 963, 964, 965, 966, 967, 968, 969, 970, 971, 972, 973, 974, 975, 976, 977, 978, 979, 980, 981, 982, 983, 984, 985, 986, 987, 988, 989, 990, 991, 992, 993, 994, 995, 996, 997, 998, 999, 1000 | |

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| Collins & Co..... | |
| Lippincott or Mann's..... | |
| Single Bit, 1/4 to 3/4 and over..... | |
| Single Bit, 1/4 to 3/4 and over..... | |
| Double Bit, 1/4 to 3/4 and over..... | ..... |
| Double Bit, 1/4 to 3/4 and over..... | ..... |
| Double Bit, 1/4 to 3/4 and over..... | |
| Second quality Axes..... | |

| | |
|----------------------------|-------|
| Sheldon & Co., Iron..... | |
| AXLE GRINDERS—Fryer's..... | |

BALANCES.

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|----------------------|-------|
| Spring Balances..... | |
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BELLS.

| | | | |
|---|-----|-----|----|
| Hand, Globe (Com's Patent)..... | dis | pat | re |
| Gong, Abbe's..... | dis | pat | re |
| Gong, Yankin's..... | dis | pat | re |
| Gong, Barton's..... | dis | pat | re |
| Loon Reading..... | dis | pat | re |
| Pull, Brook's..... | dis | pat | re |
| Crank, Taylor's..... | dis | pat | re |
| Lever, Sargent's..... | dis | pat | re |
| Bloomfield..... | dis | pat | re |
| Lever, R. & E. M. Co's..... | dis | pat | re |
| Call..... | dis | pat | re |
| Cow, Common Wrought..... | dis | pat | re |
| Cow, Western, Sargent's List..... | dis | pat | re |
| Cow, Kentucky, Sargent's List..... | dis | pat | re |
| Cow, Moore's or Dodge's, Genuine Ky., new list..... | dis | pat | re |
| See No. 1 1/2 to 3 1/2 \$5.50 \$6.50 \$7.50 \$8.50 \$9.50 \$10.50 \$11.50 \$12.50 \$13.50 \$14.50 \$15.50 \$16.50 \$17.50 \$18.50 \$19.50 \$20.50 \$21.50 \$22.50 \$23.50 \$24.50 \$25.50 \$26.50 \$27.50 \$28.50 \$29.50 \$30.50 \$31.50 \$32.50 \$33.50 \$34.50 \$35.50 \$36.50 \$37.50 \$38.50 \$39.50 \$40.50 \$41.50 \$42.50 \$43.50 \$44.50 \$45.50 \$46.50 \$47.50 \$48.50 \$49.50 \$50.50 \$51.50 \$52.50 \$53.50 \$54.50 \$55.50 \$56.50 \$57.50 \$58.50 \$59.50 \$60.50 \$61.50 \$62.50 \$63.50 \$64.50 \$65.50 \$66.50 \$67.50 \$68.50 \$69.50 \$70.50 \$71.50 \$72.50 \$73.50 \$74.50 \$75.50 \$76.50 \$77.50 \$78.50 \$79.50 \$80.50 \$81.50 \$82.50 \$83.50 \$84.50 \$85.50 \$86.50 \$87.50 \$88.50 \$89.50 \$90.50 \$91.50 \$92.50 \$93.50 \$94.50 \$95.50 \$96.50 \$97.50 \$98.50 \$99.50 \$100.50 \$101.50 \$102.50 \$103.50 \$104.50 \$105.50 \$106.50 \$107.50 \$108.50 \$109.50 \$110.50 \$111.50 \$112.50 \$113.50 \$114.50 \$115.50 \$116.50 \$117.50 \$118.50 \$119.50 \$120.50 \$121.50 \$122.50 \$123.50 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| | |
|--|-----------|
| COMPANIES, DIVISIONS, ETC. | |
| Campbell's..... | dis 20 \$ |
| Calipers..... | dis 20 \$ |
| Dividers..... | dis 20 \$ |
| Cook's Pencil..... | dis 20 \$ |
| COOPERS TOOLS. | |
| Bradley's..... | dis 19 \$ |
| Barton's..... | dis 20 \$ |
| CROW BARS. | |
| Cast Steel..... | \$ 35 c |
| CURLING IRONS, &c. | |
| 6, 8, 10, 12, 14, 16, 18, 20, 22, 24, 26, 28, 30, 32, 34, 36, 38, 40, 42, 44, 46, 48, 50, 52, 54, 56, 58, 60, 62, 64, 66, 68, 70, 72, 74, 76, 78, 80, 82, 84, 86, 88, 90, 92, 94, 96, 98, 100..... | dis 20 \$ |
| Curling Irons..... | dis 20 \$ |
| Pitching Irons..... | dis 20 \$ |
| CURRY COMBS. | |
| Fitch's new list..... | dis 20 \$ |
| Hochkiss, Novelty, new list, July, 1880..... | dis 20 \$ |
| Hochkiss, Excelsior Superior Champion..... | dis 20 \$ |
| Lawrence, "Perfect"..... | dis 20 \$ |
| Rubbert..... | dis 20 \$ |
| Sweet & Clarke..... | dis 20 \$ |
| Lantern..... | dis 20 \$ |
| CURTAIN RINGS. | |
| Silvered Glass..... | dis 20 \$ |
| White Enamel..... | dis 20 \$ |
| CUTLERY. | |
| Association (Table)..... | dis 20 \$ |
| Maugatuck Cutlery Co..... | dis 20 \$ |
| Excelsior Knife Co..... | dis 20 \$ |
| Wilson's Butcher and Shoe Knives..... | dis 20 \$ |
| Amer. Shoe Knives..... | dis 20 \$ |
| Wm. Rogers Mfg. Co., Plated Cutlery..... | dis 20 \$ |
| DOG COLLARS. | |
| Embossed Gilt..... | dis 20 \$ |
| Leather..... | dis 20 \$ |
| Brass..... | dis 20 \$ |
| DOOR SPRINGS. | |
| Torrey's Rod, regular size..... | dis 20 \$ |
| Gem (Coll.) set, April 19, 1880..... | dis 20 \$ |
| Standard..... | dis 20 \$ |
| Hercules..... | dis 20 \$ |
| DRAWING KNIVES. | |
| Middlesex Mfg. Co..... | dis 20 \$ |
| Crossman's No. 1..... | dis 20 \$ |
| Nobles Mfg. Co..... | dis 20 \$ |
| Bradley's..... | dis 20 \$ |
| Adjustable Handle..... | dis 20 \$ |
| P. S. & W..... | dis 20 \$ |
| Douglas..... | dis 20 \$ |
| DRILLS AND DRILL STOCKS. | |
| Blacksmith's Self-Feeding..... | dis 20 \$ |
| Best, P. S. & W..... | dis 20 \$ |
| Best, Wilson's..... | dis 20 \$ |
| Best, Millers Falls..... | dis 20 \$ |
| Best, Bartholomew's..... | dis 20 \$ |
| Wilson's Drill Stocks..... | dis 20 \$ |
| Automatic Boring Tools..... | dis 20 \$ |
| Manner Drill Mfg. Co..... | dis 20 \$ |
| Model Bench Drill..... | dis 20 \$ |
| KKK Post Drill..... | dis 20 \$ |
| BUG BEATERS. | |
| Dover..... | dis 20 \$ |
| Acme..... | dis 20 \$ |
| Victoria..... | dis 20 \$ |
| ENEMY AND ENEMY PAPER. | |
| Regular numbers..... | dis 20 \$ |
| Flour and F. F..... | dis 20 \$ |
| E. A. Emory Paper..... | dis 20 \$ |
| ENAMELED AND TINNED WARE. | |
| Kettles..... | dis 20 \$ |
| Sauce Pans..... | dis 20 \$ |
| Tinned Sauce Pans..... | dis 20 \$ |
| Scotchman Pins—Brass..... | dis 20 \$ |
| ESCUCHIONS. | |
| Door Lock..... | dis 20 \$ |
| Brass Thread..... | dis 20 \$ |
| Wood..... | dis 20 \$ |
| FAUCETS. | |
| Fenn's..... | dis 20 \$ |
| Fenn's Cork Stope..... | dis 20 \$ |
| Star..... | dis 20 \$ |
| Clark's Patent Pattern..... | dis 20 \$ |
| West's Patent Key..... | dis 20 \$ |
| Anchor Lock..... | dis 20 \$ |
| Metallic Key, Leather Lined..... | dis 20 \$ |
| Cork Lined..... | dis 20 \$ |
| Sommer's Best Metallic Key..... | dis 20 \$ |
| Sommer's Cork Lined, 1st quality..... | dis 20 \$ |
| FILE. | |
| E. M. Boynton's..... | dis 20 \$ |
| Western File Co..... | dis 20 \$ |
| Butcher's..... | dis 20 \$ |
| H. D. Hinton & Sons (new list)..... | dis 20 \$ |
| Heller Bros' Horse Rasps..... | dis 20 \$ |
| Nicholson..... | dis 20 \$ |
| New American..... | dis 20 \$ |
| Union File Co..... | dis 20 \$ |
| Stiles, new list..... | dis 20 \$ |
| FLUTING MACHINES. | |
| Knorr, 4 1/2 inch Rolls..... | dis 20 \$ |
| Knorr, 6 inch Rolls..... | dis 20 \$ |
| Knorr, 8 inch..... | dis 20 \$ |
| Eagle, 3 1/2 inch Roll..... | dis 20 \$ |
| Eagle, 3 1/4 inch Roll..... | dis 20 \$ |
| Crown, 4 1/2 in., \$3.50; 6 in., \$4.50; 8 in., \$5.50 each..... | dis 20 \$ |
| Crown, 4 1/2 in., \$3.50; 6 in., \$4.50; 8 in., \$5.50 each..... | dis 20 \$ |
| Domestic Fluter..... | dis 20 \$ |
| Geneva Hand Fluter, White Metal..... | dis 20 \$ |
| Crown Hand Fluter, Nos. 1, 2, 3, 4..... | dis 20 \$ |
| Combined Fluter and Sad Iron..... | dis 20 \$ |
| FORKS. | |
| Iowa Farming Tool Co's..... | dis 20 \$ |
| Remington..... | dis 20 \$ |
| Sheble & Klemm..... | dis 20 \$ |
| FRY PANS. | |
| Burnished list as follows..... | dis 20 \$ |
| No. 1..... | dis 20 \$ |
| No. 2..... | dis 20 \$ |
| No. 3..... | dis 20 \$ |
| No. 4..... | dis 20 \$ |
| No. 5..... | dis 20 \$ |
| No. 6..... | dis 20 \$ |
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| No. 22..... | dis 20 \$ |
| No. 23..... | dis 20 \$ |
| No. 24..... | dis 20 \$ |

Standard Oil Fuel Burner.

Ever since petroleum oil became a commercial product, and the opening of vast natural reservoirs gave promise of future supply, there has been a continuous effort to produce an apparatus by which this fuel could be economically and effectually utilized.

At the outset, knowing its components to be entirely combustible, it was thought an easy task, but after a few years hun-

up as it is drawn out and spread over the surface of the many pronged diffuser, or sprayer as it is called, and carried forward in the highest condition of combustion to the fire chamber.

The above description may be more fully understood by showing what takes place under varying conditions.

Petroleum oil always contains a much larger proportion of carbon than hydrogen, and if burned with the ordinary and natural supply of air the hydrogen is readily

way New York, who have purchased Meyer's system for burning fuel oil. To this they have added some valuable improvements which enables them to apply it to any use where heat is required. It is used for welding iron and steel or other metals, heating blooms, &c., in mining, and in brick and lime kilns, &c.

The larger cut in this connection shows a section of the works of Lamson & Sons Co., Cleveland, O., which contains fifty of these fires.

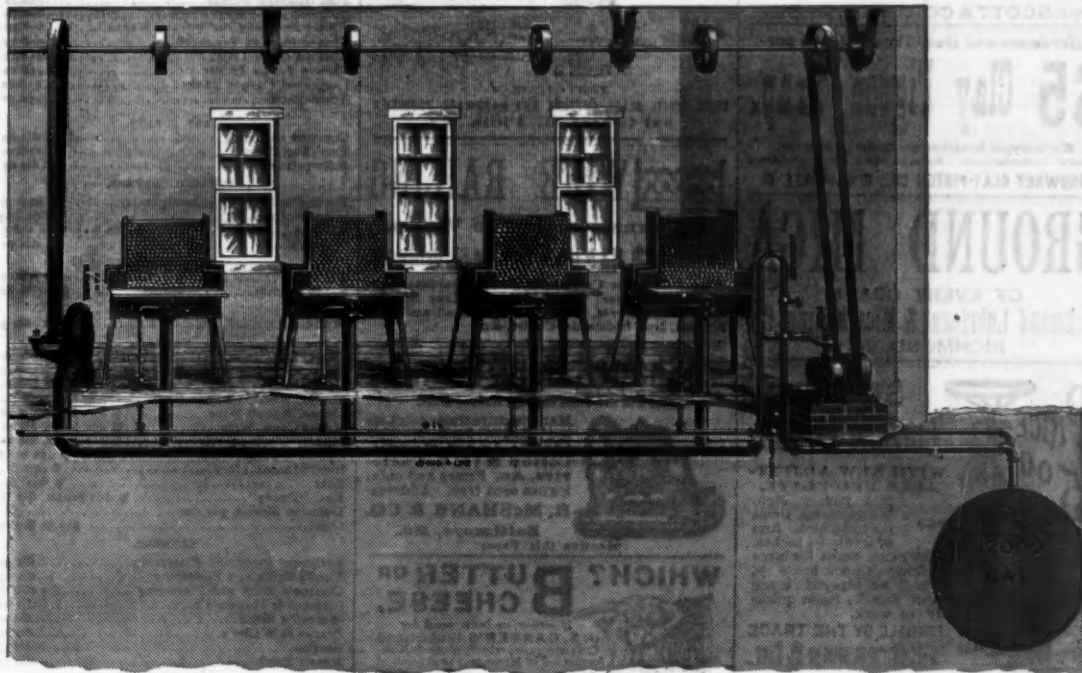


FIG. 1.

dreds of devices had accumulated without practically solving the matter.

It is but a short time since the subject was taken up and received scientific investigation in all its relations to heat and power, and what is claimed to be the fallacy of the older methods, such as spraying, atomizing, steam jets, etc., pointed out, while the advantage of bringing the fuel into component relations with oxygen by some efficient method became apparent. The device now meeting with great success is one constructed on this basis, which we will briefly describe.

On referring to cut, the burner is seen in longitudinal section through the center, showing all its details. The outer and unexposed portion is made from cast iron, while the inner portion, exposed to the heat, is made of the same material as refractory brick, this part being set into the iron in a substantial manner.

Lengthwise through the center of the apparatus is an opening. This extends from the inner face of combustion chamber to a point near the outside, where it intersects another short opening at right angles with it, over which is a slide to regulate the quantity of air admitted.

The supply pipe enters the burner from the outside and extends a short distance into and along the center of main opening, where a peculiar device is attached to it, technically called a sprayer, by which the fuel is finely divided and mixed with the air current as it is carried to the combustion chamber. Here we get one of the best illustrations in fuel economy. As solid particles of almost every description melt and diffuse in an atmosphere of oxygen, so the solid substance of petroleum oil, "carbon," is at once entirely consumed by the oxygen supplied from the continuous current or blast of common air.

The air is supplied by a blower with a pressure of from six to eight ounces; this may seem moderate when other systems use twenty-five to thirty pounds, but it is amply sufficient, the oil being readily taken

consumed, but without evolving sufficient heat for the complete combustion of the carbon, which in a more or less heated condition is carried away to be deposited on the surfaces over which it passes.

Neither must too much air be used, as it will have a cooling effect, and the carbon, as in the former instance, will be but partially consumed; hence the necessity for an easily determined and properly gauged supply.

It is a curious fact with regard to every improvement, that nearly all tend to simplicity. This has been especially so of all real improvements in petroleum burners.

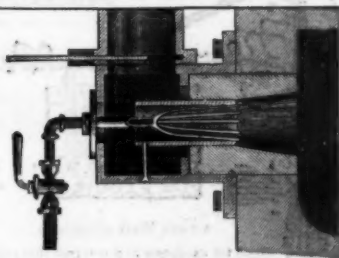


FIG. 2.

The one just described is little more, to all appearances, than a properly proportioned inlet for fuel; but when seen in action, steadily bringing together the different components, and turning them into an intensely hot and vivid flame, the science in the construction becomes apparent. It may here be added that, with all the heat to which the exposed part of the burner is subjected, there is none that reaches the point where the oil enters.

The usual method of feeding is by a pump, which takes the oil from a storage tank placed under ground, some fifty feet away, the surplus oil flowing back to the tank by an automatic device. The manufacturers of this apparatus will, however, if desired, furnish a gravity system of feeding, but consider pumping the best.

This burner is manufactured by the Standard Oil Fuel Burner Co., 137 Broad-

The company have fires also running in many other places, from 6x8 inches up to 5x24 feet, all giving, we are informed, excellent satisfaction. One furnace is heating sixty gross tons of blooms per day. Their testimonials from several prominent firms asserts a saving over coal, varying from 30 to 65 per cent.

The Norton Emery and Corundum Wheels.

The Norton emery and corundum wheels are made by what is termed the vitrified process, the particles of emery and corundum being held together by a bond which vitrifies when placed in a high heat. This bond is so strong that very little of it is required, so that the goods are composed

vantage, it is claimed, over those which are held together with glue, shelles, oils, and different cements by being placed under a heavy pressure. The Norton Emery Wheel Co. say:

"It will be readily seen that these materials have no abrasive qualities and add weight to the wheels, besides interfering with the cutting properties of the emery. Moreover it all has to be burnt and melted away by friction before the points of the emery can be exposed to the work, and in order to obtain these results, high speeds are necessary, which condition is not desirable. There is not a particle of anything in the composition of the Norton wheel which can possibly be affected by water or other liquids. There could be nothing better for water tool grinding or other work where it is desirable to run in water, for being so porous they are constantly filled with water, which is thrown out through the pores of the periphery. They make a good filter, as water poured on one side will come out on the other, running through very quickly.

Considering all these conditions, it is not strange that the wheels cut so freely and rapidly, and at the same time have such great endurance, and are free from the faults of glazing, heating the work, &c., which causes so much inconvenience.

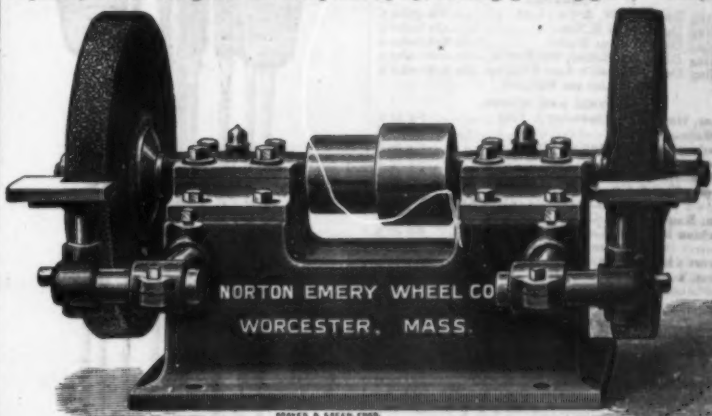
The Norton Emery Wheel Co. guarantee every point that they claim for their goods, and make it a principle not to have one of their wheels in use which is not giving entire satisfaction."

The Norton emery wheel machinery is subjected to careful test and warranted as represented. It is all furnished with self-oiling boxes, which keep the bearings supplied with oil for a long time without refilling, and they are so arranged as to prevent dust from entering the journals. The bearings are of extra length and unusual distance is given between wheels.

This company manufacture a great variety of oil and water stones, which are, it is said, superior in every way to the natural in that they cut much faster, can be graded more accurately and exact duplicates furnished at any time.

They manufacture a special line of wheels for the Brown & Sharp grinding machinery, which have met with great success.

In addition to the ordinary uses to which emery wheels are put, such as casting grinding, all kinds of tool grinding, surfacing, &c., &c., the goods by this process are specially adapted for cleaning wheat and barley, cotton-seed, &c., grinding wood pulp, filtering grinding-glass, marble, fire-



THE NORTON EMERY AND CORUNDUM WHEELS.

almost entirely of pure emery or corundum, and the small percentage which forms the bonds also has cutting properties, so that a wheel is produced all of which cuts, and nothing is wasted. No pressure whatever is used during the process, the result of which is that the wheels are very open and porous, and consequently free cutting, having every ad-

brick, granite and many other peculiar uses. They are invaluable for many kinds of dental and jewelers' works, grinding rolls, car wheels and other revolving work.

The Norton Co. publish a neat illustrated catalogue, which they will be pleased to mail free to any one upon application.

The goods are handled by first class representatives in the principal cities of the world, the New York office being at 39 John street.

IRON & STEEL ROOFING

CORRUGATED & CRIMPED SIDING. MANUFACTURED BY W. G. HYNDMAN & CO. CINCINNATI, OHIO. CEILING ETC.

SCREW DRIVERS.

| | | |
|---------------------------------------|--------|---|
| Douglas Mfg. Co. | dis 40 | 5 |
| Dixon's | dis 45 | 5 |
| Cowles Mfg. Co. | dis 70 | 5 |
| Stanley Rule & Level Co. Var. Hds. | dis 60 | 5 |
| Stanley Rule & Level Co.'s Black Hds. | dis 50 | 5 |
| Richards | dis 50 | 5 |
| Clark's Patent | dis 50 | 5 |
| Shapardson | dis 50 | 5 |

SPOKE TRIMMERS.

| | | |
|-----------|--------|---|
| Bennett's | dis 50 | 5 |
| Ives | dis 50 | 5 |
| Douglas | dis 50 | 5 |

SILVER PLATED WARE.

| | | |
|-------------------------------|--------|---|
| Wm. Rogers Mfg. Co. | dis 50 | 5 |
| Holmes, Booth & Hayden | dis 50 | 5 |
| Wallace's Steel Silver Plated | dis 50 | 5 |
| Robert Bros 1847 | dis 50 | 5 |
| C. Rogers & Bro. | dis 50 | 5 |

SCREWS.

| | | |
|--|--------|---|
| Standard new list, March 1. | dis 50 | 5 |
| Flat Head Bright | dis 40 | 5 |
| Round Head Bright | dis 40 | 5 |
| Flat Head Brass | dis 45 | 5 |
| Round Head Brass | dis 45 | 5 |
| Flat Head Blue (add 5¢ to net) | dis 50 | 5 |
| Brass and Silver Capped | dis 40 | 5 |
| Japanned Flat Head | dis 40 | 5 |
| Coch. Patent Gimlet Point | dis 45 | 5 |
| Coch. Common or Lag. | dis 45 | 5 |
| Bed. | dis 45 | 5 |
| Machine, Flat Head, Iron | dis 50 | 5 |
| Machine, Round Head, Iron | dis 50 | 5 |
| Beach, Iron | dis 50 | 5 |
| Beach, Wood, Beach | dis 50 | 5 |
| Beach, Wood, Hickory | dis 50 | 5 |
| Hand, Wood | dis 50 | 5 |
| Hand Rail, Humason, Beckley & Co.'s | dis 40 | 5 |
| Hand Rail, Am. Screw Co., list Jan. 1, '81 | dis 70 | 5 |
| Jack (Wilson's) | dis 45 | 5 |

SCREEN FRAMES AND FIXTURES.

| | | |
|--|--------|---|
| Standard Window Screens No. 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100 | dis 50 | 5 |
|--|--------|---|

FOR DOOR, STAIRS.

| | | |
|--------|--------|---|
| No. 80 | dis 50 | 5 |
| No. 81 | dis 50 | 5 |
| No. 82 | dis 50 | 5 |
| No. 83 | dis 50 | 5 |
| No. 84 | dis 50 | 5 |

FOR DOOR, STAIRS.

| | | |
|--------|--------|---|
| No. 85 | dis 50 | 5 |
| No. 86 | dis 50 | 5 |
| No. 87 | dis 50 | 5 |
| No. 88 | dis 50 | 5 |
| No. 89 | dis 50 | 5 |
| No. 90 | dis 50 | 5 |

SHRUBS.

| | | |
|---------------------------------------|--------|---|
| Sliding Door, M. W. & Co., List | dis 45 | 5 |
| Sliding Door, R. & K. list | dis 60 | 5 |
| Sliding Door, Patent Roller | dis 60 | 5 |
| Sliding Door, Ft. Roller, Hatfield's | dis 60 | 5 |
| Sliding Door, Russell's Anti-Friction | dis 60 | 5 |

SHOVELS AND SPADES.

| | | |
|----------------------------------|--------|---|
| Ames, New List, November 1, 1885 | dis 50 | 5 |
| Griffiths | dis 50 | 5 |
| Remington's (Lowman's Patent) | dis 50 | 5 |
| Rowland's | dis 50 | 5 |
| Lippincott, new list | dis 50 | 5 |
| Hunny, Sims & Co. | dis 50 | 5 |

SILVER PLATED HOLLOW WARE.

| | | |
|-----------------------|--------|---|
| Wm. Rogers Mfg. Co. | dis 50 | 5 |
| Meriden Britannia Co. | dis 40 | 5 |

SOLDERING IRONS AND COPPERS.

| | | |
|---------------------------|--------|---|
| Cover's Soldering Iron | dis 40 | 5 |
| Cover's Adjustable Copper | dis 35 | 5 |

SPOONS.

| | | |
|-----------------------------|--------|---|
| Britannia | dis 60 | 5 |
| Tinned, Iron, Table and Tea | dis 60 | 5 |
| Tinned Iron Hoisting | dis 50 | 5 |
| German Silver | dis 40 | 5 |

STONES.

| | | |
|---|--------|---|
| Hindustan No. 1, 4c, 5c, 6c, 7c, 8c, 9c, 10c, 11c, 12c, 13c, 14c, 15c, 16c, 17c, 18c, 19c, 20c, 21c, 22c, 23c, 24c, 25c, 26c, 27c, 28c, 29c, 30c, 31c, 32c, 33c, 34c, 35c, 36c, 37c, 38c, 39c, 40c, 41c, 42c, 43c, 44c, 45c, 46c, 47c, 48c, 49c, 50c, 51c, 52c, 53c, 54c, 55c, 56c, 57c, 58c, 59c, 60c, 61c, 62c, 63c, 64c, 65c, 66c, 67c, 68c, 69c, 70c, 71c, 72c, 73c, 74c, 75c, 76c, 77c, 78c, 79c, 80c, 81c, 82c, 83c, 84c, 85c, 86c, 87c, 88c, 89c, 90c, 91c, 92c, 93c, 94c, 95c, 96c, 97c, 98c, 99c, 100c | dis 50 | 5 |
|---|--------|---|

SQUARES.

| | | |
|----------------------------------|--------|---|
| Steel | dis 60 | 5 |
| Iron | dis 60 | 5 |
| Nickel Plated | dis 60 | 5 |
| Try Square and T Bevels | dis 50 | 5 |
| Wright's Try Square and T Bevels | dis 40 | 5 |

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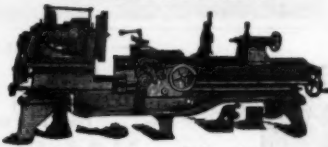
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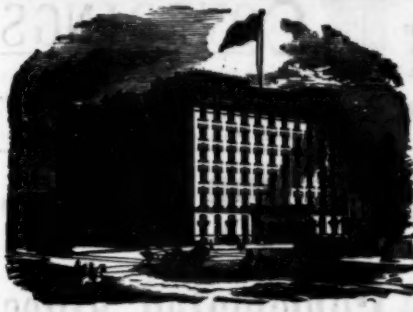
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As a Manufacturing Center, and Especially in the Way of Railroad Facilities.

Her People are Energetic, Progressive, and Extend a Cordial Welcome and Co-operation to Manufacturers and Capitalists.

DURHAM, N. C., August 21, 1889.

Editor Manufacturers' Record:

Reader, let us talk business just five minutes. If you have an eye to business you will read this article through. Read it carefully and then act.

When an individual or a company start out with an idea and intention of engaging in manufacturing industries they consider several considerations.

First and foremost the location.

This means the surroundings, the railroad facilities, the feelings of the people towards the industries, and the tact and energy of the people among whom it is proposed to engage in business.

No man desires to start business in a languid town, or one cut off from lively railroad competition. He wants to get into a live, lusty, bustling, stirring place, where the people are active and will give a hearty co-operation to new industries. Durham is the place.

Durham county, and especially the town of Durham, offer to the world an inviting field for new factories, of every kind in the line of—

Wood-work!

Cotton and woolen manufactories!

All classes of tobacco!

Farming utensils!

And canning industries!

Why?

Because the location of the town is a good one. It is surrounded by the raw material for these purposes. The climate mildly tempered. The people exceedingly well disposed to the encouragement of new comers—men of energy and capital.

Our people are energetic themselves. They have built Durham with their own hands and by their own energy.

Seventeen or more years ago Durham was a small station, on one railroad, and her manufactured tobacco was counted by the thousand pounds. To-day the pounds are in the millions. To-day she has two factories alone which have an annual output of more than 10,000,000 pounds. Besides these, Durham has other factories, which swell the figures in smoking tobacco, plug tobacco, snuff, cigarettes and cigars, and the town has grown from a few hundred to nearly 7,000 inhabitants, with street cars, electric lights, and a splendid system of water works, good schools and churches of all denominations. We have other factories of other lines of goods, machine shops, foundries and daily papers. We mention these things to show that we are a progressive people, and have not been waiting for others to come in and build us up.

Note this, please. If Durham has grown to her present proportions situated on one railroad, what must be her possibilities in the future with four railroads and a lively competition along this line? Think of this!

Durham is situated on the Piedmont Air Line system. Recently she has been placed on the Seaboard Air Line system, with another road now being constructed which will connect with the Chesapeake & Ohio system at Lynchburg. Already we have fourteen passenger carrying trains and quite a number of freights arriving and departing daily. These roads make connection with all points of the compass and in competition give Durham the best point in the State for manufacturing industries.

New towns are being opened, and these accessions to the trade of Durham make

her a most desirable point for manufacturing industries.

Another thing to consider. Our people are hospitable and move with indomitable energy. They will give a cordial welcome and a warm hand-shake to every capitalist joining us in new industries. Durham invites them to come.

Durham presents a field of interest and profit to the manufacturer and energetic capitalist. Railroad competition and superior facilities here will claim his undivided attention if he will look into the matter.

Friends of intelligence and money, the fruit is before you; reach out and pluck it. Bring up nearer your step-ladders, as it were, and join us in a rich harvest.

Durham is the point around which clusters inviting prospects for the future. You have only to investigate her advantages and possibilities to see for yourself and be convinced of the truthfulness of what we offer, and the warm invitation we extend to you to come among us.

J. A. ROBINSON,

Editor Durham Daily Sun.

WIDE AWAKE for September opens the new serial by Susan Coolidge, a story for girls who have their living to earn; it is called "A Little Knight of Labor." The Peppers serial by Margaret Sidney is full of good times and exciting happenings, as is usual with the Peppers household. Miss Risley Seward gives the last of her Around the World Stories—perhaps the most entertaining of them all; it is entitled "My Dinner at Kensington Palace"—an amusing glimpse of royalty. Madame De Meissner, in "The Story of the 'Magic Flute,'" relates a romantic incident in the young life of Mozart. Lieut. Loudon tells a bright Indian story, "The Race Between Mr. Deer and Mr. Antelope." Mrs. Kate Upson Clark has an amusing account of a mother's experience with three boys and three birds, entitled "Three Robins." Mrs. Hy. Sandham has a bit of Canadian experience called "A Voyage on a Raft." An account of a North Carolina outing, illustrated from photographs, is entitled "Through Hickory Nut Gap." The Daisy-Pattie Letter, by Mrs. William Claffin, is of importance to the girls. There are also many other good things. Wide Awake is \$2.40 a year. D. Lothrop Co., Publishers, Boston, Mass.

A STEAM soap-making outfit that has been used some is offered for sale in our advertising columns by the Ellicott Machine Co., of Baltimore, Md. The outfit cost over \$7,500, but must be sold immediately, and can be had at a great bargain. The South is the best place in the world to establish a soap factory, and some enterprising individuals or town should buy this outfit, and build up a paying business in the cotton-seed and rosin regions. Such an opportunity seldom offers itself. Any bid made for the outfit will receive consideration.

THE cuisine and excellent management of the American House, Boston, continue to command most favorable comment, and a "full house" is the response of appreciation which the public bestow on the efforts of its proprietor.

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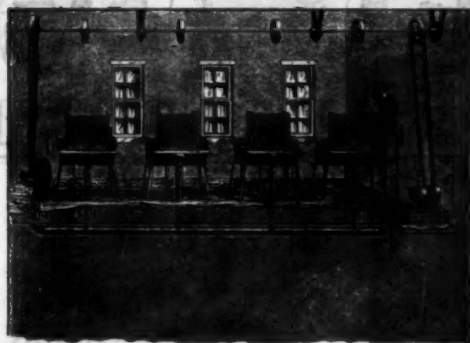
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This Burner is particularly adapted to the heavy work done by axe and scythe makers, large drop forging, etc., as well as the innumerable lighter manufactures.

We have in actual use fires from 6 x 8 inches for sure work, up to 5 x 24 feet for heating Blooms, where we heat 60 gross tons per day.

In fact it can be applied to any purpose where heat is required, obtained from coal or gas. We save in fuel, labor, time, quality of work, health of operatives, cleanliness; also in the durability of belting, which is rapidly destroyed by the fumes of gas produced by anthracite coal.

We have at this office a number of testimonials from large concerns, setting forth the merits as claimed, which are open to inspection, or a circular will be furnished on application. For further information apply at the offices of the company, 137 Broadway.

THE SYSTEM adopted by this company for the use of Crude Petroleum as fuel is both simple, economical and effective. Perfect combustion, uniform heat, regulated as easily as an ordinary lamp. Although comparatively new, being only introduced in April of this year, the number of fires using it AMOUNT TO NEAR ONE THOUSAND, WHICH IS PROBABLY MORE THAN ALL THE OTHER DEVICES FOR THIS PURPOSE COMBINED.

This company has yet to meet with the first failure in its appliance. The company is ready to put up any number of fires on trial, and to remove the same free of all expense should it fail to do what is represented.

We use the ordinary blast blower (found in most every establishment) that will give 5 to 6 oz. pressure. Steam or compressed air dispensed with.

This Method is well adapted for Desulphurizing Ores and other Mining Purposes.

OFFICE OF LAKE ERIE IRON CO.,
201 CLAIR STREET, CLEVELAND, O., June 28th, 1895.

Gentlemen: In reply to your request for a testimonial as to the merits of your burners, we beg to state that when you first proposed to put your burners in our works we were rather doubtful as to the realization of all you claimed. After a trial of three burners we increased the number to twenty-three, and have added twelve more, and in the near future will use no other means of combustion.

We save sixty-five per cent in fuel, fifty in labor and twenty-five in time, besides producing a better article; and in health and comfort to operators it is beyond comparison.

Yours very truly,

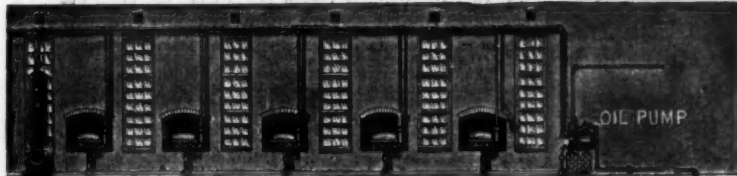
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In practical operation converts crude petroleum into a fixed or non-condensable gas for illumination or fuel. The attention of gas companies is called to this process, as by its adoption they will be able to produce a light of equal brilliancy to that of the electric light, and at less cost than by any other process. Manufacturers will find this the fuel with which to compete with natural gas.

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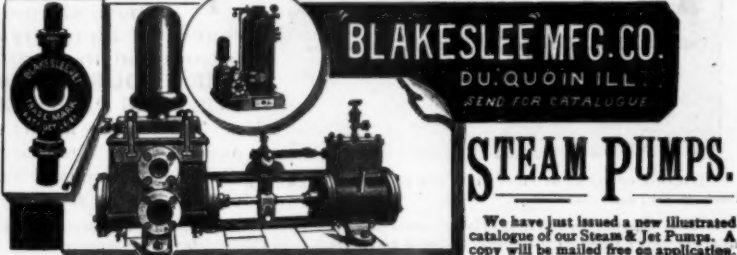
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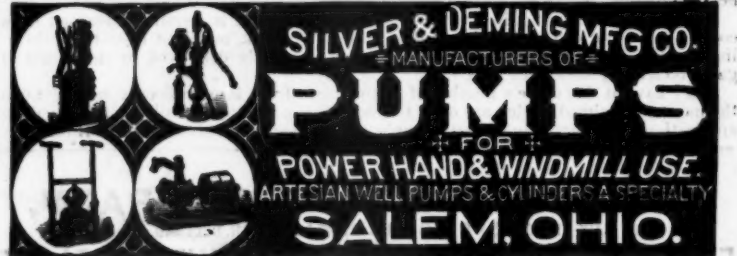


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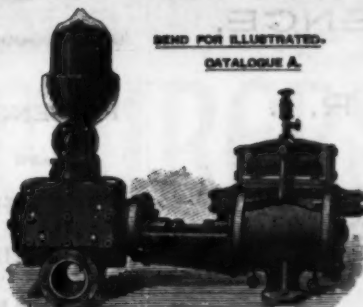
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